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THE PRACTITIONER'S MANUAL



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The practitioner's manual : a condensed

H. H. Rumsey.

LAURENCE WELTI



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Dr. Lawrence Welti

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LAURENCE WELTI

LAURENCE WELTI

THE
PRACTITIONER'S
MANUAL

A CONDENSED SYSTEM OF GENERAL
MEDICAL DIAGNOSIS AND
TREATMENT

BY
CHARLES WARRENNE ALLEN, M.D.

CONSULTING GENITO-URINARY SURGEON TO THE CITY (CHARITY) HOSPITAL. CONSULTING DERMA-
TOLOGIST TO THE RANDALL'S ISLAND HOSPITAL; TO THE HACKENSACK HOSPITAL; TO
THE BAYONNE HOSPITAL; TO THE INFANT ASYLUM OF THE HOLY ROSARY.
PROFESSOR OF DERMATOLOGY AT THE NEW YORK POST-
GRADUATE SCHOOL, ETC.

SECOND EDITION, REVISED AND ENLARGED

"Qui Bene Dignoscit Bene Curat"

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PREFACE TO THE SECOND EDITION.

It is most gratifying to the author that a comparatively large edition of the "Manual" has been thus early exhausted. It indicates that his surmise that there was room for a work of this kind, intended chiefly for the busy practitioner, was not without foundation.

In revising the text it has not been found necessary to rewrite any considerable portion. Having originally left out much that is necessarily included in text-books intended for students, it only remained to omit enough formulæ to make room for more important ones, and for methods of treatment and points in diagnosis which have come up since the first publication. Still the size of the volume has been slightly increased.

Minor changes have been made throughout, and new chapters have been added upon Gastropotosis, Meralgia Paræsthetica, Mongolism, the Fourth Disease, Singultus, Splenitis, Mediterranean Fever, Blackwater Fever, Enteroptosis, and Poliomyelitis in the Adult.

The writer's thanks are extended to Dr. Robert T. Morris, Dr. Oscar H. Holder, and Dr. William M. Leszynsky for kindly looking over the sheets on Appendicitis, Exophthalmic Goitre, and Nervous Diseases respectively, and to Dr. Milton W. Franklin for assistance in making the index.

PREFACE.

LA BRUYÈRE said it was as difficult to select well as to originate. Believing that verbosity is not a virtue, the writer, in his efforts to make a practical, useful, and at the same time concise book, has found selective condensation the chief difficulty. Arguing that there is an abundance of text-books, students' manuals, and systems of medicine, from which to supplement, this work is presented to the busy practitioner as affording a quick method of securing the views of the leaders in medical thought. In this respect it is practically a condensed system, representing the writings of a large number of eminent authors. Much of the material is in the nature of original contributions, having been written in answer to a circular letter announcing the scope of the work.

To all those who have so courteously responded to the author's request for personal methods and formulæ or therapeutic suggestions, the writer desires to extend his grateful acknowledgments. Likewise to those authors who have so unhesitatingly given permission to quote their recent writings.

By giving in succession the recommendations of several equally distinguished authors, the reader is enabled to select the one he will follow, or if one plan of treatment does not succeed another may be tried.

"Cautions" have been freely interspersed, on the theory that to do no harm is often the equivalent of doing good.

While single-drug medication, aimed at securing definite physiologic effect, is to be preferred to the shotgun prescription, aimed at nothing and expected to hit the mark, still judicious

combinations are often of the greatest value, one drug enhancing the effect of another. The smallest dose which will accomplish the result is always preferable. Heroic dosage is never to be withheld because it "savors of old-time physic." The fathers of medicine were not all fools.

The therapeutic value of water is recognized, and frequent reference has been made to hydrotherapeutic measures. When it was written, "Man doth not live by bread only," it might have been added, "and is not cured exclusively by water."

Diagnosis must of necessity be at the foundation of all successful therapeutic effort. Proper remedies are difficult to find, only because accurate diagnosis (including remote causes and actual pathologic changes) is not easy.

In order to keep within the bounds of required brevity, only the newer points in diagnosis and the essentials of treatment have been given in certain chapters, reliance being placed upon the reader's general knowledge of the subject and his ability to consult more pretentious works for further detail.

Making scientific exactness and uniformity in nomenclature subservient to useful expediency, the author has allowed such symptomatic designations as "diarrhœa," "headache," and "jaundice" to stand at the head of certain chapters. Some subjects usually neglected in text-books have received lengthy consideration; conversely, others have been made brief. Tables of equivalents have been added in an Appendix, since many formulæ have been published in the terms in which they were originally written.

To Dr. E. Franklin Smith, Dr. Albert D. Mayer, and Dr. Jacob Sobel, the writer's especial thanks are due and are gratefully extended for valuable aid in arranging the material, assisting in the proofreading, and making possible a prompt completion of the work.

THE PRACTITIONER'S MANUAL.

Abscess of the Brain.

THERE is here often a history of injury about the head or of ear disease to arouse suspicions of purulent encephalitis.

DIAGNOSIS.—The temperature is oftentimes subnormal, and is never very high unless meningitis or some other complication exists. The pulse is slow, giving us a most valuable indication in the presence of headache of increasing intensity and obscure mental disturbances, with vomiting, rigors, convulsions (in children), vertigo, somnolence, and perhaps paralysis. Any existing cause for abscess, such as chronic otitis media, trauma, purulent inflammation of pulmonary organs or cranial-bone disease, gives material aid in arriving at a diagnosis.

DIFFERENTIATION.—Tuberculous meningitis may give many of the same symptoms, but it runs its course much more rapidly.

Traumatic apoplexy (one-side) may closely resemble it.

Encephalitis (non-purulent hemorrhagic) likewise, but a beginning marked by high temperature opposes the diagnosis of abscess. Opium somnolence must be excluded.

Hysteria may be present to confuse, or the symptoms in abscess of otic origin may simulate it; also purulent disease of the lateral sinus.

Tumor of the brain is distinguished with difficulty when pressure symptoms predominate. In the latter there are local paralysis, choked disc, headache of gradual increase, absence of chill and sweat, and the course is slower. The stethoscope detects a note of higher pitch and greater intensity than is heard

over normal areas of brain when auscultatory percussion is practised.—MACEWEN.

TREATMENT.—In suspected cases trephine.

The physician who has not the courage to recommend an exploratory operation in a strongly probable case of abscess of the brain lest he may be wrong in his diagnosis, is more solicitous for his own reputation than for the welfare of his patient.—ESKRIDGE.

Prevent abscess by curing purulent otitis media.

Abscess of the Breast.

Threatened abscess is diagnosticated when overdistention occurs at the interruption of lactation, or when heat, swelling, knotting of the ducts, and tenderness follow a fissure or abrasion about the nipple during the nursing-period. Epidemic mastitis, presumably due to some infection, has been observed in a number of nursing women subjected to the same surroundings, without skin lesion about the breast, or mouth lesion in the nursing infant, being discoverable. Severe rigor followed by high fever marked the onset.

PROGNOSIS is usually favorable. Extensive sloughing of the skin over the chest wall might prove fatal. In strumous subjects especially, chronic inflammation may result in pus collection, which is slow to reach the surface.

TREATMENT.—*To prevent* before induration occurs, forcibly express by hand from half a pint to a pint of milk, under nitrous-oxide gas if necessary. Apply belladonna ointment freely and over it a large sponge compress; or put on a figure-of-eight bandage. Give aperients and small frequent doses of tincture of aconite. Lactation may produce recurrence and necessitate withdrawing the infant. Surgical measures when pus is located.

In the chronic form, the infant should be weaned without delay.—GROSS.

Abscess of the Lung.

If after a pneumonia, influenza, or other inflammatory affection the chest presents evidences of cavity without manifestations of tuberculosis, abscess may be suspected.

DIAGNOSIS.—Copious expectoration of pus mixed with elastic fibres and blood pigment, together with a percussion note which is dull when the cavity is filled and tympanitic when the matter is coughed up, points to this condition. Deeply situated cavities give out a respiratory tympanitic percussion note when empty, as after spontaneous discharge through the mouth. Small multiple abscesses of embolic origin are diagnosticated by the known primary source of sepsis likely to result in this condition.

Pus may be located by an exploring-needle or by Paquelin-cautery opening and introduction of a director.—CARL BECK.

DIFFERENTIATION from phthisis by absence of tubercle bacilli. From bronchial disease by the presence of lung tissue or elastic shreds in the foul-smelling pus.

PROGNOSIS.—In multiple septic abscess due to embolism the outlook is bad. In single large abscess of benign nature contraction of the walls may follow complete evacuation.

TREATMENT.—Pleurotomy, pneumotomy, evacuation, and drainage for cavities externally situated.

In a week after operation give strophanthus and caffeine.—BECK."

Abscess, Mediastinal.

Occurring almost as frequently as cancer in the same situation, we have substernal pain, chills, sweats, and occasionally history of injury to guide us.

DIAGNOSIS.—Dyspnoea is present only if the collection is of such dimensions as to press upon the organs of respiration.

There are fever, throbbing, and perhaps fluctuation at the

margin of the sternum or in the suprasternal notch. Caries, pyæmia, empyema, or lung abscess preceding pressure symptoms should direct attention to this condition.

DIFFERENTIATION from growths causing pressure symptoms is difficult. Aneurism gives more pain and has its own peculiar signs. Cancerous growth, if of long standing, shows secondary metastatic deposits, cachexia, etc. Hemorrhage following injury develops rapidly.

TREATMENT.—If the pus can be reached it should be evacuated.

Abscess, Psoas.

Whether the result of strain or of preceding spinal caries, the symptoms, which may be obscure, at times simulate those of chronic malarial poisoning, at others of perityphlitis, but in the latter there are intestinal instead of spinal symptoms, the constitutional symptoms are more marked, and the tumor appears more suddenly.

TREATMENT.—After lumbar incision, irrigation, etc., such a tonic as—

R Syrupi ferri, quininæ et strychninæ phosphatis..... ʒ iv.
S. Teaspoonful in water three times daily.

—POTTER.

Acetonuria.

DIAGNOSIS.—This toxæmia, which derives its importance from being quite constantly found in the terminal stages of diabetes (probably producing at times diabetic coma), is diagnosed by a sudden sharp attack of abdominal pain attended with nausea and sometimes vomiting, dyspnœa, panting respiration, marked restlessness, delirium often developing within a brief period, irregular pulse, subnormal temperature, and a peculiar odor of the breath.

Acetone, which in diminutive amounts may be found in the healthy urine, is here largely increased, and if accompanied

by the presence of sugar may be regarded as pathognomonic of diabetes. The greater the amount of acetone excreted, the greater the danger of a rapidly fatal termination of the disease. Diacetic acid, which may be present in mild cases, is found in severe ones in large amounts.

Diacetic-Acid Test.—A solution of perchloride of iron is added drop by drop. If phosphates are precipitated, filter and add again the ferric chloride. A claret color forming and disappearing when the specimen is boiled indicates the presence of the acid. An ethereal extract of the urine can be treated in the same way, when, if the color disappears from the specimen within forty-eight hours, the presence of diacetic acid is likewise indicated.

DIFFERENTIATION.—Besides being found in diabetes, acetonuria is at times present in typhoid, scarlet fever, measles, pneumonia, septicæmia, acute articular rheumatism, carcinoma, inanition, psychoses, digestive disturbances, and acute miliary tuberculosis. In children it is thought to have no special signification. Acetonuria may be observed after the administration of anæsthetics, and also as an auto-intoxication with symptoms of restlessness and even delirium preceding diaceturia, which is always pathological.

TREATMENT.—If the patient has been on an exclusive and highly concentrated nitrogenized diet, the first indication is to add easily digested foods of a mixed nature.

℞ Potassii acetatis gr. xx.-xxx.
Give at dose well diluted every three hours.

Saline purgatives; bitter tonics.

℞ Sodii bicarbonatis 3 ij.-iij.
To be taken during the twenty-four hours.

Milk diet.

If the pulse is small, digitalis, associated with ergot.

If slow and soft, caffeinæ citratis, 0.5 gm. at dose.—ROBIN.

Acromegaly.

DIAGNOSIS.—In this affection, characterized by deformity of the face, hands, and feet, the latter may reach an enormous size, and there is enlargement of the nose, of the malar prominences, and of the tongue. The forehead retracts and the chin projects, carrying the line of the lower teeth beyond that of the upper. The skin is often dry and pigmented and the hair coarse. The hands are increased especially in their width and thickness. The fingers have been described as sausage shaped. The height is often markedly increased, and disorders of the special centres are to be looked for.

This condition may be associated with giantism, which in itself predisposes to acromegaly, though the two are regarded as distinct. Among the constant objective symptoms are enlarged hands and feet, lengthened face, enlarged eyelids, nose, lips, and chin, prominent jaw, and abdominal respiration; among the subjective, loss of sexual instinct, polyphagia, and polydipsia. There is also general weakness, and perhaps melancholia.—MAXIMILIAN STERNBERG.

DIFFERENTIATION.—The condition bears a superficial resemblance to myxœdema. It is distinguished from osteitis deformans by the long bones not being implicated, and those of the face rather than those of the skull being affected. In myxœdema the face outline is rounded, in osteitis deformans it is broad at the upper and narrow at the lower part, while in acromegaly it is quite regularly oval shaped. The hypertrophic osteo-arthropathy of Marie is distinguished by its affecting subjects of preceding and long-standing pulmonary disease; the long bones being affected, the phalanges being bulbous, and the nails having a parrot-beak curve, while in acromegaly they are flattened and longitudinally striated. Peterson¹⁶ has described an instance in association with syringomyelia, and Walker¹⁷ one combined with giantism. Exclude adiposis dolorosa (p. 14).

In leontiasis ossea the face bones and cranium are enlarged, but not the hands and feet.

TREATMENT.—Hitherto treatment has been of little avail. Dr. Cabot collected the histories of nine cases in which the thyroid extract had been administered and ten in which the pituitary body was given. A number were benefited by both of these extracts, and for this reason Dr. Cabot advised their use conjointly. In an instance related by Dr. Hinke,¹⁴ the symptoms of pain and helplessness were relieved and the physical as well as the mental condition of the patient was improved by the use of the above-mentioned remedies, both singly and combined. There was a marked diminution in the size of the tongue under the thyroid treatment.

R Magnesii sulphatis ʒ i.
Give every second day.

R Potassii iodidi gr. x.
Potassii bromidi gr. xij.
Aquæ q.s.
M. Give three times daily.

—BANKS.

The indiscriminate use of organ extracts is to be deprecated. Organ therapy is out of place in Graves' disease and acromegaly. It is not unlikely that there is a close connection between the latter and diabetes.—HAUSERMANN.

The superficial resemblance between acromegaly and myxœdema seems to justify the use of thyroid extract. Mixed pituitary and thyroid extracts produced great improvement in one instance after five months' treatment.—ROLLESTON.¹⁵

Suprarenal treatment seems to give only negative results. The pineal and thymus extracts have been used.

Actinomycosis.

Lesions upon the skin usually escape early detection because the microscope is not resorted to in doubtful suppuration.

When the disease affects an internal organ before external

evidences have appeared in the form of fluctuating sarcoma-like outgrowths of yellowish or purplish hue, chiefly in the region of the lower jaw, symptoms are present which vary with the location of the disease. A marked early symptom is the occurrence of trismus. When, however, the lung is implicated, characteristic granules of thread-like formation may be discovered in the sputum. If the urinary tract is implicated its secretion may contain actinomycosis spherules.

DIAGNOSIS.—The ray fungi, pearly-gray or yellowish granules, which measure from one-half millimetre to two millimetres in diameter, are usually not to be confounded with any similar minute bodies when they pour out from glandular tumors or from an abscess which opens upon the surface or has been incised. If, however, doubt exists, a granule placed under the microscope after having been spread out by pressure on the cover glass is seen to be a star-shaped body made up of numerous threads showing more or less club-shaped extremities. A mycelium with several branching segments is quite characteristic. The suppuration which accompanies the fungus appears to be an epiphenomenon. Since it is through carious teeth that infection most often takes place, the swelling usually first appears in the region of the jaw, whence it may spread to the neck, simulating the condition known as angina Ludovici. Subsequently, however, multiple openings are found resulting in fistulous tracts, leading from the skin to the deeper parts. The bucco-cervical is the most common type, showing indurated swelling usually in the upper part of the neck or behind the jaw.

DIFFERENTIATION is to be made from simple abscess and phlegmon, by the smaller amount of pus, and the presence of soft tissue which bleeds readily. Because of the rarity of the affection, the diagnosis is usually not made until some of the small sulphur-yellow granules resembling iodoform have been brought to light and subjected to the low power of the microscope as a confirmatory measure; Gram's method of staining

making the club-shaped filaments much more distinct. To the unaided eye cultures of the fungus may resemble those of the tubercle bacillus. Under the microscope the rods are larger than tubercle bacilli. When the disease occurs in the apex of the lung the diagnosis is to be made from tuberculosis by spores being found in the sputum, but the resemblance above mentioned must be borne in mind. Professor Poncet has described a pseudo-actinomycosis whose yellow grains are thirty or forty times as large as those of the true variety.

PROGNOSIS.—When actinomycosis is deeply seated in an internal organ, such as the brain, giving symptoms of meningitis, encephalitis, or abscess, death is quite sure to follow. Lung implication has been fatal in eighty-five per cent of recorded instances. When, however, the lesions are superficially seated and can be operated upon in a thorough manner, good results follow; cutaneous forms show a mortality rate of about three per cent. The disease is of slow course and may extend over a number of years.

TREATMENT.—Claims have been made for the beneficial action of silver solutions and carbolic acid. These or other caustics should be employed in any case after surgical procedure; the silver especially should be tried, since it is said to possess properties antagonistic to the fungus. Iodide of potassium has been recommended, and in some instances has been administered with benefit. It should be given in daily dose of from one to four drachms by the mouth, or, if needs be, per rectum. When the disease is so superficially located that it can receive thorough surgical treatment by curettage, excision, etc., this is the course to pursue. Upon the surface the solid silver stick may be used. Darier and Gautier derived much benefit from the injection of a ten-per-cent solution of iodide of potassium, followed by insertion of platinum electrodes, through which a mild current passed for twenty minutes. A perfect cure resulted after a few sittings.

If the disease is accessible scrape the tumors and inject a five-per-cent solution of carbolic acid in glycerin, and if sinuses are present cotton wool saturated with this fluid should be introduced into them.—**RAFFER**.

For obtaining successful results, iodide of potassium, in doses ranging from two to four grains a day extending over two or more months, is the only drug to be relied upon. It acts rather by its inhibitive power than as a destructive agent.—**JURINKA**.

Ill-defined indurations may be repeatedly injected with 1:500 bichloride-of-mercury solution, or alcohol.

Sodium salicylate may produce amelioration.—**NETTER**.

Addison's Disease.

In the various affections of the suprarenal capsules known under this designation, a more or less deep bronzing of the skin is the chief objective symptom and usually the first one to attract attention. It may precede the subjective by months.

DIAGNOSIS.—This discoloration begins generally upon the exposed surfaces, and it is usually here that the bronzing becomes the most marked. The other parts chiefly affected are the axillary and genital regions, the areola of the nipple, the regions of the joints, and the folds of the skin. The scalp, soles, and palms escape. The bronzing of the skin may be diffuse or in discrete patches, and is associated with subjective symptoms which include prostration with marked wasting of the body, especially at first, attended with gradual loss of strength, vomiting which bears no close relation to the taking of food, feebleness of circulation, and anæmia. The greatest difficulty in diagnosis is experienced when, as sometimes happens, this train of symptoms occurs with little or no discoloration of the skin. In such instances diagnosis may depend, as Professor Nusser has pointed out, on changes in the arterial system with high tension of the pulse. Or there may be a very striking differ-

ence in tension between the peripheral pulse and that of the abdominal aorta, other causes for this condition having been excluded. The form without bronzing is usually of rapid course, death occurring in coma within a few weeks. Other symptoms to which Renner has directed attention are the occasional presence of numerous wart-like elevations scattered over the surface and an intolerable itching. For a positive diagnosis to be warranted, asthenia, vomiting, pain in the loins and abdomen, and the other constitutional symptoms alluded to should be present. Melasma may long precede general symptoms.

DIFFERENTIATION.—The discoloration is distinguished from other pigmentation of the skin by its greater intensity, which, in long-standing instances, results in patches of a chestnut or mahogany hue or a deep amber color. They begin, at times, as a yellowish tinge; the whole surface may, in exceptional cases, become of a uniform walnut-juice color, the pigment being deposited in irregular-sized and irregularly distributed groups; or more rarely isolated, rounded spots of pigmentation may exist without showing a tendency to extension or confluence. Pigmentation is to be sought on the buccal membrane.

Jaundice is excluded by the absence of sclerotic and conjunctival discoloration, these parts remaining free in Addison's disease, while the mouth is implicated.

Pigmentation following sunburn is of more localized distribution upon exposed parts. All other forms of pigmentation, except possibly that of idiopathic multiple pigmentary sarcoma, are thrown out if small pigmented patches are found upon the mucous membrane of the cheeks, lips, and tongue. Indeed, it may be said that pigmentation of the buccal membrane is of the greatest diagnostic importance, for, although it is a possibility in other conditions, its occurrence greatly favors the diagnosis of Addison's disease.

In uterine chloasma the forehead and cheeks are mostly in-

volved. In pityriasis versicolor characteristic spores will be found, and the patch is stained deeply with iodine.

In argyria the discoloration is gray or grayish-black and confined to the face and hands, though at times here too the buccal membrane may be stained. In syphilitic pigmentation either the neck is the seat of the reticularly arranged deposit or rounded spots mark the site of preceding eruption, and, in any pigmentary syphilis, we expect evidences of infection. In the discolorations in diabetics and following long-continued irritation, as in scratching of phtheiriasic patients, especially those of advanced years, the skin is harsh and rough, while in Addison's disease it is usually smooth.

Pigmentation following the use of arsenic shows less uniformity in distribution; the lesions are not so bronze-like and are apt to take on more the form of lentigo.

Large, brown, freckle-like stainings on the backs of the hands in elderly persons and subjects of rheumatoid arthritis would scarcely come into question in this connection.

In lepra the plaques are more regularly rounded and occur upon the trunk rather than upon the exposed surfaces.

In angioma pigmentosum we find concomitant atrophic and disfiguring manifestations, and it occurs as a family disease in more youthful subjects.

Xeroderma pigmentosum likewise occurs in several children of a family and is characterized by new growths upon the face.

Bright's disease is sometimes simulated, especially when coma occurs, and, in the absence of bronzing, it should be excluded by an examination of the urine.

Sarcoma of the lungs or other tissues may be attended with involvement of the suprarenal capsules simulating quite closely Addison's disease.

Idiopathic multiple sarcoma (Kaposi type) is distinguished by the presence of actual tumors.

PROGNOSIS.—Two years would seem to be the limit of life

for the majority of cases, although some instances of recovery are recorded since the introduction of suprarenal medication. Death may occur after delirium or in collapse.

TREATMENT in the past has been symptomatic, sustaining, and most unsatisfactory. Recently, however, there have been not a few reports of recovery and many more of marked improvement. There would seem to be two courses of treatment open: one to detract suprarenal elements from the economy; the other, to add them. Thus, an instance of cure is reported by Hadra following the extirpation of a tuberculous development of the retroperitoneal glands and involving one of the suprarenal capsules in its growth. Osler considers treatment by suprarenal extract of great value. One patient, who when admitted was scarcely able to walk, left the hospital some four months later with a gain of nineteen pounds and was able to resume work. Either the fresh gland or the dried extract may be administered by the mouth, or a glycerin extract may be injected beneath the skin. No set rule can be laid down of the exact dosage, but the treatment may be persisted in until decided benefit is noted. If the fresh gland of the sheep or steer is employed, possibly two suprarenals of the former or one-half gland of the latter may be given daily, to be eaten raw. It is probably better to employ the dried extract in the dose of five grains in capsules three times daily, made by some reliable firm having a reputation for care in the selection of the glands from which the remedy has been manufactured.

Progressive improvement has followed half-drachm doses of suprarenal extract three times daily; or the equivalent of three pig's glands daily.—OSLER.

In one instance the symptoms disappeared after the removal of one of the suprarenals, the seat of tuberculous disease; in another after removal of a tuberculous testis and a course of iodide of potassium combined with a strictly nitrogenous diet.

In another great improvement followed the use of three suprarenal tabloids daily, gradually increased to twelve. Later on one and one-half ounces daily of a one-in-two suprarenal extract was employed.—E. LLOYD JONES.

Of forty-eight cases treated by various adrenal preparations six are reported cured or practically well, twenty-two improved, eighteen unimproved, and in two instances an aggravation of the symptoms is stated to have occurred during treatment.—F. P. KINNICUTT."

The equivalent of fifteen grains of suprarenal extract in pill form three times daily, gradually increased.—RINGER AND PHEAR.

℞ Tinct. ferri chloridi,
Spiritus chloroformi.....āā ʒ i.
Glycerini puri..... ʒ vi.
M. S. Dessertspoonful in water three times a day.

—GREENHOW."

For hypodermic use :

℞ Glycerin extract of suprarenals.
S. Inject ten to fifteen minims daily (℥ xv. = gr. x.).

—WOOD AND FITZ.

Strychnine, arsenic, generous diet, wine, hygienic dwelling, pure country air.

Adiposis Dolorosa.

Fatty deposit in the tissues attended with pain is a rare state, not to be confounded with myxœdema, which does not have the neuritic and pressure pains and affects more especially the hands, feet, and face.

TREATMENT.—Thyroid extract, morphine to control pain, then massage.

Sodium salicylate; a diet free from fat-forming food; baths, massage, electricity.—DERCUM.

Albuminuria, Functional.

Just as we have a glycosuria which is not indicative of diabetes and a nephritis without accompanying albuminuria, so we have an albuminuria which is not a positive sign of nephritis. It is usually cyclic or intermittent, and may continue for years without producing symptoms of ill health. Cardiac albuminuria points to venous stasis.

Muscular exercise (bicycling) may cause a form of so-called "physiological" albuminuria. The condition may likewise be of hepatic, gastric, or nervous origin.

In the cyclic variety albumin is scant or absent in the morning, increased by noon, and disappears in the evening or at night.

Albuminuria may result from exposure to cold, and is frequently associated with diabetes, infectious processes, and sewer-gas poisoning.

Albuminuria minima is a term proposed by Talamon, which impresses me as a good one, under which may be included the various functional forms usually described as cyclic albuminuria, intermittent albuminuria, etc. It occurs mostly in young subjects, especially females. The morning urine is usually free. It is often the first stage of Bright's disease.

DIAGNOSIS.—There may be no symptoms, the discovery being accidentally made, or there may be complaint of headache; palpitation, and a generally debilitated feeling. In order to reach a diagnosis the following things are necessary: 1. The demonstration of a persistently intermittent albuminuria unaccompanied by casts or other evidence of renal disease. 2. The elimination of diseases of other organs, especially of a left ventricular hypertrophy.—G. E. TYLER.

DIFFERENTIATION.—True cyclic albuminuria is distinguished from transitory forms depending upon various reflex or other

conditions, by its occurring only when the subject assumes the standing position and disappearing during horizontal repose or sitting. Albuminuria is a symptom in a large number of diseases.

From nephritic disease, chiefly by the absence of pronounced symptoms; the intermittent nature; the long duration without effect upon the health; the absence of specific casts. (The presence of casts in small numbers does not always indicate organic disease.—MARIE.)

The form which occurs after eating or after great fatigue is thought by Arnozan to depend upon auto-infection. In dyspeptic albuminuria there are gastric hyperæsthesia, perhaps distention, and usually pronounced constipation; indican and oxaluria, but no casts.

PROGNOSIS.—Intermittent alimentary albuminuria is curable. When continuous it is removed only in thirty per cent to thirty-five per cent of case.—ROBIN.

If albuminuria appears in the course of another affection and persists more than four weeks, the prognosis is unfavorable. A diminution in the amount of urea is a bad sign; also sudden diminution in the quantity of urine excreted.—WARREN.

The stress or congestion which befalls the kidney in cases of febrile anasarca may set on foot a morbid process that long works silently and unobserved, but at last declares its operation by symptoms.—SIR THOMAS WATSON.

In gout and lead poison the prognosis is bad.

The condition is probably harmless, though some assert that it always means ultimate organic change.—TYLER.

TREATMENT.—It is nearly always necessary to have recourse to a milk diet. If the patient grows thin under it, suspend. If it is found that there is less albumin under a meat than a vegetable diet, let this be ordered, and *vice versa*.—ROBIN.

Diet is the most important element in treatment. Milk, or, better, *kephir* (of which two pints may be taken daily), white

meats, birds, rabbits, sweetbreads, frogs' legs, calf brains, crabs, oysters, fish, spinach, oyster-plant, turnips, carrots, Brussels sprouts, stewed apples, prunes, pears, peaches, stale bread.—SIMON.

Keep the kidneys well flushed with plain or alkaline waters and hot water before meals; warm bathing, hygiene, hot air.

Occasionally blue pill or nitrohydrochloric acid.—W. B. VANDERPOEL.

℞ Acidi gallici 3 i.-ij.
 Acidi sulphurici diluti..... 3 ss.
 Tinct. lupulini 3 i.
 Infusi lupulini.....q.s. ad 3 vi.
 M. S. Tablespoonful t.i.d.

—AITKEN.

For Subcutaneous Injection.—The following is Menella's formula:

℞ Iodini 0.20 cgm.
 Potassii iodidi q.s.
 Aquæ destillat.....q.s. ad 20 cm.

M. S. From one to two cubic centimetres, to be injected in the course of a day.

Mousnier's formula:

℞ Iodini 4 gm.
 Tannin..... 1 "
 Eucalyptol..... 40 "
 Olei sterilizat q.s. ad 100 cm.

M. Inject from a half to one cubic centimetre.

—E. BOISSON.

In some forms, venipuncture.—REGINALD HARRISON.

Alcoholism.

Acute alcoholism, when the patient is in an unconscious state, is frequently confounded with traumatism and the coma of apoplexy. In the absence of all history and even when an odor of alcohol is detected, it is often difficult to decide the point. If the tongue is found to be bitten, and especially if in-

continence of urine and fæces has occurred, apoplexy is the more likely diagnosis.

DIFFERENTIATION.—The symptoms often simulate those of traumatism. Temperature subnormal, pulse slow, respiration stertorous, pupils dilated but of equal size, face congested (possibly pale).

Exclude injury by careful examination of whole surface, and fracture at base of skull by absence of hemorrhage from nose, mouth, and ears. In cerebral irritation from a blow upon the head there are restlessness, flexed extremities, cold surface, closed lids, contracted pupils, irritability, muttering, grinding of teeth.

Chronic alcoholism presents symptoms of gastro-intestinal catarrh. There is diminished vitality, and evidences of fatty degeneration of one or more important organs may be made out. The nervous system is also much disturbed in its various functions, and the patient who has long had the alcoholic habit may show signs of imbecility, hallucinations, muscular unsteadiness, neuritis, and perhaps symptoms simulating those of general paralysis of the insane.

Delirium tremens may present symptoms akin to those of meningitis, and a pneumonia at the apex may have as one of its symptoms a delirium scarcely to be distinguished from that due to alcoholism; the same may be said of the delirium coming on occasionally in chloral habitués, if the drug be suddenly suspended.

PROGNOSIS.—Inebriety is curable in one-third of the cases. Prognosis is not so good for women as for men.

DIPSOMANIA.

Dipsomania is characterized by an irresistible obsession and impulse to drink. In the periodical attacks the patient abandons himself to the cravings. Between the attacks the mental

and bodily health may appear normal, but there is probably in every instance a psychopathic constitution. Eccentricities, perversions, erratic actions, may be the only abnormal manifestations in the intervals.

Crothers says these subjects frequently develop epilepsy. They live, he says, "on the frontier of insanity, crossing back and forth all the time."

PROGNOSIS is here extremely bad.

TREATMENT.—In dipsomania treatment in institutions is advisable and often necessary, since alcohol must be entirely withheld. If the time of approaching attack is known, sedatives may be freely used.

Prophylaxis requires the avoidance of alcohol in the offspring of all presenting the conditions for the hereditary transmission of dipsomaniac tendencies.

No drug treatment will make a liar truthful, a thief honest, nor a whore virtuous; neither will such "cure" a person of any habit or vice. The moral nature and the will power of the patient are alone competent for this task. Drugs aid the treatment by acting as nerve tonics, and giving the patient confidence. One of the best is strychnine in full doses, gr. $\frac{1}{20}$ ter vel quater in die, by hypodermic injection. Another which has done good service in my hands during the last five years, while in charge of a special hospital for the treatment of inebriety (St. Mark's Hospital, San Francisco), is the solution of the bromide of gold and arsenic commonly known as "arsenauro." I use it hypodermically in doses of m x. , three or four times daily, with a very fine needle plunged into the deep tissues of the arm above the elbow, and have never made a sore in hundreds of cases treated.—S. O. L. POTTER.

When in doubt concerning an unconscious state, act as if the case was one of traumatism. Keep under observation until the effects of a debauch have worn off.—J. B. HUBER.

The Turkish bath associated with massage meets a wider range of conditions than any one remedy.

Bromides when indicated should be given in large dose, gr. l.-c., but only for a few days.

To relieve the insomnia strychnine nitrate, gr. $\frac{1}{20}$ every four hours with bromides.

The withdrawal of spirits should always be followed with calomel or saline purge, and a prolonged hot-air or hot-water bath followed by vigorous massage.—T. D. CROTHERS.

Hypnotism acts best in periodic cases, the *séances* being given between the drinking-bouts.—SPARKS.

In "willing" cases hypnotism should be employed regularly for a month, suggestions being made that alcohol become distasteful and that total abstinence be practised.

In the anæmic variety of acute poisoning with pallor, dilated pupils, feeble, rapid, and irregular pulse, give a hypodermic of nitroglycerin with atropine before using the stomach tube; then a hot pack.—FABRICIUS.

The basis of treatment is complete, compulsory, prolonged abstinence; discipline and efficacious surveillance. Treat the condition of the nervous system.—MONTYEL.

℞ Strychninæ nitratis	gr. viij.
Acidi salicylici	gr. iv.
Spiritus	℥ i.
Aquæ	℥ iiij.

Make up antiseptically. ℥ xv. = $\frac{1}{8}$ grain of strychnine.

S. ℥ xv. hypodermically two or three times a day.

—FLINT.

To create a distaste for drink :

℞ Tinct. strophanthi	℥ ss.
S. Gtt. viij. in water three times a day.	

Chronic alcoholism :

℞ Strychninæ	gr. $\frac{1}{16}$.
Hypodermatically for the first day.	

℞ Strychninæ	gr. $\frac{1}{16}$.
Each day during seven days.	

Then—

℞ Strychninæ..... gr. i.
Ft. pil. No. lx. One pill daily each alternate week.

—JERGOLSKI.

In nervous irritability requiring a sedative chloral combined with strychnine.—HARE.

An influence akin to suggestion practised by the physician upon his unhypnotized patient is very useful in the treatment of inebriety.—F. A. BURRALL.

Strychnine nitrate removes the desire for alcohol and the distress at the epigastrium so common upon its withdrawal. It allays tremulousness and uncertainty of voluntary motion, restoring appetite and general physical vigor.—BREED.

Drugs alone are of little value without moral training. A nourishing diet and plenty of fresh fruit are an essential part of any serious attempt to cure alcoholism.—McMICHAEL.

The "cure" as carried out at Bellevue Hospital:

First day's injection :

℞ Strychninæ nitratis..... gr. $\frac{1}{8}$
Atropinæ sulphatis..... gr. $\frac{1}{100}$
Aquæ destillatæ..... ℥ x.
M. S. Inject t.i.d.

Second day's injection :

℞ Strychninæ nitratis..... gr. $\frac{1}{8}$
Atropinæ sulphatis..... gr. $\frac{1}{100}$
Aquæ destillatæ..... ℥ x.
M. S. Inject t.i.d.

Stomachic mixture :

℞ Tinct. cinchonæ comp..... ℥ xv.
Tinct. capsici..... ℥ ss.-i.
Tinct. solani carolinensis..... ℥ ij.
Vini ferri amari..... ad 3 i.
M. S. 3 i. t.i.d. Shake.

Sedative mixture (first and second nights if needed).

℞ Potassii bromidi..... gr. xxx.
Chloralis..... gr. xv.
Tinct. valerianæ..... 3 ss.
Aquæ..... q.s.
M. S. This dose to be taken every two hours if needed.

DIET.—One-half to one glass of milk (hot or peptonized), alternating with hot beef tea or broth, every two hours. Stomach washing as necessary.

On being discharged the patient is given:

℞ Tinct. calumbæ ʒ i.
 Tinct. capsici ℥ xv.
 Tinct. nucis vomicæ ʒ i.—iss.
 Apomorphinæ gr. ʒ.
 Tinct. cinchonæ comp ad ʒ iv.

M. S. Teaspoonful in water after meals.

C. L. DANA.

Morning vomiting of drunkards:

℞ Liq. potassii arsenitis gtt. iv.
 Aquæ ʒ i.

M. S. Teaspoonful every half-hour.

—EDDY.

Premonitory symptoms of drink impulse at regular or irregular intervals enable the physician to use preventive measures. In certain cases calomel and saline cathartics, with prolonged baths, rest, or exercise, according to the requirements of the cases, have been found curative.—T. D. CROTHERS.

In place of alcohol, hot water, lemonade, lime juice, aromatic spirits of ammonia, ginger, cinnamon, coffee, tea, or milk may be used.—GENTLES.

Strychnine nitrate, gr. $\frac{1}{30}$ or gr. $\frac{1}{20}$ twice daily for ten days; then once daily for ten days.—McCONNELL.

For a calming effect, liquor ammonii acetatis until free perspiration and diuresis.

℞ Tr. avenæ sativæ gtt. xv.—xx.

Hot drinks, tincture of capsicum.

Caution.—Avoid establishing the capsicum habit.

In confirmed drunkards give one-twentieth grain of strychnine in half an ounce of whiskey three times daily.—REAGAN.

If ammonia be added to the liquor consumed, such a distaste for alcohol will be produced after a few doses that even the

sight or smell of alcoholic beverages becomes unpleasant.—

BARATIER.

℞ Auri et sodii chloridi	gr. $\frac{1}{17}$.
Strychninæ nitratis	gr. $\frac{1}{10}$.
Nitroglycerini	gr. $\frac{1}{100}$.
Atropinæ sulphatis... .	gr. $\frac{1}{100}$.
Digitalini	gr. $\frac{1}{10}$.
Sodii chloridi	gr. $\frac{1}{2}$.

M. et ft. tab. No. i. For hypodermic use.

—DUNHAM.

To produce emesis, if the patient can be induced to swallow.

℞ Mustard	℥ ss.
Lukewarm water	℥ i.

If subject is unconscious :

℞ Apomorphinæ	gr. $\frac{1}{2}$.
Aquæ destillatæ	q.s.

M. S. Inject subcutaneously.

To relieve the symptoms of gastritis and the craving for alcohol:

℞ Decoction of althæa	℥ v.
Chlorine water	℥ ij.
Cane sugar	℥ ij.

M. S. Tablespoonful every two or three hours.

—ZEDEKAUER.

To create a disgust for alcohol atropine in small doses (less than gr. $\frac{1}{100}$) hypodermatically three or four times daily.—

CARTER.

As a tonic, strychnine, gr. $\frac{1}{80}$ three or four times daily.—

TYSON.

℞ Spiritus ammonii aromatici	℥ ij.
Tinct. camphoræ	℥ iss.
Tinct. hyoscyami	℥ iiss.
Spiritus lavandulæ comp.	q.s. ad ℥ ij.

M. S. One teaspoonful every hour.

When acute symptoms have been relieved:

℞ Pulveris capsici	gr. xxiv.
Quininæ sulphatis	gr. xxxvi.

M. ft. caps. No. xii. S. One capsule before each meal and continued for several days.

MANIA A POTU.

The first indication after withdrawal of alcohol is to procure sleep. Give hyoscine, gr. $\frac{1}{8}$, hypodermatically.—TYSON.

Or—

R Trional gr. xx.
 Tinct. capsici..... ℥ x.
 Aquæ..... q.s.

For one dose.

This should be preceded by a calomel purge.

Or—

Sulphonal..... gr. x. increased to gr. xxx.
 —BELLAMY.

Caution.—If pushed, causes heart depression and unsteady gait.

To prevent the adynamia which may follow the sudden withdrawal of alcohol:

R Spt. ammonii aromat..... 3 ss.
 Tinct. digitalis..... ℥ x.
 Strychninæ..... gr. $\frac{1}{10}$.

M. S. For one dose. Repeat every three hours.

—TYSON.

A cure for drunkenness, to extend over from three to six weeks.

R Auri et sodii chloridi gr. $\frac{1}{10}$.
 Strychninæ nitratis..... gr. $\frac{1}{10}$.

To be given by hypodermic at 10, 12, 4, and 8 o'clock daily.

R Chloride of gold and sodium..... gr. xij.
 Muriate of ammonium gr. vi.
 Nitrate of strychnine..... gr. i.
 Atropine..... gr. $\frac{1}{4}$.
 Comp. fl. ext. of cinchona..... 3 iij.
 Fluid extract of coca 3 i.
 Glycerin 3 i.
 Distilled water..... 3 i.

M. S. A teaspoonful in water every two hours.

During the course the patient is allowed whiskey if he can take it.

This is said to be almost the same as the Keeley method, ex-

cepting that in the latter absinthe and aloes are added to the above formula.—J. L. GRAY.

Caution.—Note that nitrate of strychnine enters into both prescriptions.

Nitrate of strychnine, taken steadily in large doses, has a tendency, first, to impair the appetite for liquor; later, to make liquor an incompatible or sickening agent for the time being. The systematic effects of nitrate of strychnine seem to be not injurious. Yet I would be far from advising any private or injudicious use.—R. M. PHELPS.

DELIRIUM TREMENS.

To produce a quieting effect the following combination is given at the Vanderbilt Clinic:

℞ Potassii bromidi,	
Sodii bromidi.....	ãã gr. xv.
Chloralis	gr. x.
Tinct. zingiberis.....	℥ x.
Tinct. capsici	℥ v.
Spir. ammonii aromatici.....	3 i.
Aquæ.....	3 ij.

The poison should be eliminated by giving liquor ammonii acetatis, 3 i., in water and repeating as required.—KERR.

To produce sleep :

℞ Hyoscinæ hydrobromatis.....	gr. ʒss.
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By the mouth or under the skin.

As a sedative : A full bath at a temperature of 65° F., of from eight to fifteen minutes' duration, according to reaction, repeated every two or three hours; the patient being immersed to the shoulders while water at the same temperature is poured over the head.—LETULLE.

℞ Hydrargyri chloridi mitis.....	gr. x.
Followed by :	
℞ Pil. hydrargyri.....	gr. x.
Pulv. opii	gr. i.

In acute wild mania: Hydrargyri chloridi mitis, gr. xxx. or more, placed on the back of the tongue, after chloroforming, if necessary.—WILLIAM MURRAY."

I never use opium or its derivatives, but rely on chloral, in full doses, gr. xxx. every two hours until sleep follows. If the heart will not bear chloral, I use duboisine, gr. $\frac{1}{10}$ hypodermically, and repeat if necessary after an hour to produce sleep. In any case I fill up the stomach with strong hot soup, containing plenty of pepper in the form of Tabasco sauce.—S. O. L. POTTER.

When bromides and sedatives do not act :

℞ Pulv. capsici ʒi.
Ft. bolus. S. At dose.

—A. H. SMITH.

Should insomnia be an element :

℞ Sodii bromidi $\frac{3}{4}$ ss.
Chloralis 3 iiss.
Syr. aurantii corticis $\frac{3}{4}$ ss.
Aquæ ad $\frac{3}{4}$ iv.
M. S. A teaspoonful at bedtime and repeated during the night if necessary.

℞ Methylol 70
Aquæ destillatæ (steril.) 100

M. S. ℥ xv. hypodermatically from one to three times in twenty-four hours.

Or twenty centigrams of methylol, repeated if necessary every two hours.—KRAFFT-EBING.

Half an ounce of tincture of digitalis produces quiet and rest.—A. G. PATERSON.

Anæmia.

In a large class of cases the condition of secondary anæmia is of such importance as to call for modification in the plan of treatment which is being carried out against the underlying constitutional disease.

DIAGNOSIS depends largely upon the known presence of Bright's disease, syphilis, malaria, tuberculosis, affections attended by loss of blood, the presence of intestinal parasites, etc.

In the simple anæmia there is, generally speaking, a **poor-ness** of blood affecting its various elements. The complexion is usually described as "muddy" or of a yellowish-white hue.

DIFFERENTIATION.—Simple anæmia is differentiated from chlorosis, pernicious anæmia, leukæmia, pseudo-leukæmia, and the still indistinct form of splenic anæmia as well as those of toxic origin, by the absence of the more or less characteristic features of these various affections, as shown chiefly by the examination of the blood.

The table on page 28, prepared by Dr. W. Edwards Schenck, "of Cincinnati, gives at a glance the differentiation by blood examination between the several forms of primary and secondary anæmia.

From chlorosis by the absence of the typically greenish pallor; from pernicious anæmia by the rapid reduction in the latter of the red blood corpuscles (one-fifth normal) while the hæmoglobin percentage remains relatively high.

Leukæmia shows a steady increase in the number of white cells and an equal decrease in the red; the spleen, liver, and lymph nodes are enlarged, but not in simple anæmia.

Beginning phthisis is excluded by the absence of physical signs, and Bright's disease by absence of casts, etc.

Organic heart disease is excluded by the flowing character of the anæmic murmur which always accompanies the first sound of the heart, and is audible in several arteries coincidently, occasionally disappearing when the circulation is tranquil, to return when the heart beat is accelerated. Anæmic manifestations, absence of signs of heart disease, and entire disappearance of the murmur under appropriate treatment directed to the anæmic state, all point to the right diagnosis.—W. H. HARRIS."

Anæmia should be sought for in the earliest stages of heart

	Real Cells. Men, 5,000,000; Women, 4,500,000.	Size of Red Cells.	NUCLEATED RED CELLS.		White Cells. Normal: 5,000 to 10,000.	Young Cells. Small, Large, and Transitional, Mononuclear, Per Cent.	Adult Cells. Polymorpho- Nuclear Neutrophils, 62 to 70 Per Cent.	Old Cells. Eosinophiles, 1/2 to 4 Per Cent.	Myelocytes. Normal only in Bone Marrow.
			Normoblasts.	Megaloblasts.					
PRIMARY.									
Pernicious anemia	1,000,000	Increased.	Less numerous than megaloblasts.	Majority of nucleated exceeding normal blasts.	4,200	45.9	Decreased.	2.7	2
Chlorosis.	Rarely under 2,000,000	Diminished.	Few.	.....	7,485	33	Decreased.	3.5	Rare.
SECONDARY.									
Leukæmia — splenic myelogenous.	3,000,000	Normal.	Numerous.	Few.	450,000	7.6	50	4.4	37
Lymphatic.....	3,000,000	Normal.	Rare.	.....	100,000	96	3	0.36	None to .7
Hodgkins' disease.....	Normal.	Normal.	None.	None.	7,500	Normal.	Normal.	.....	None.
Tumors of or near the spleen.	Diminished.	Normal.	Few.	.....	20,000-40,000	Decreased.	Increased.	Usually increased.	Few if any.
Leucocytosis....	.....	Normal.	Few at times.	.....	100,000 or more.	Decreased.	Increased.	.....	Few if any.
Chronic malaria.*.....	Diminished.	Normal.	Few.	.....	Increased somewhat.	Increased.	Decreased.	.....	Few if any.
Amyloid disease.....	Diminished.	Normal.	Few.	.....	Increased.	Decreased.	Increased.	.....	None.
Hydronephrosis.....	Normal	Normal.	None.	.....	Normal	Normal or decreased.	Normal	.....	None.

* Persistent examination will reveal the plasmodium.

disease and treatment persisted in so long as the condition remains.

The œdema of anæmia is generally diffused, while that of purely cardiac origin is apt to show first in the feet and legs.—
A. H. SMITH.

If the percentage of hæmoglobin falls below seventy-five, as shown by the hæmoglobinometer, there is good reason to suppose that a heart murmur is anæmic if there is no definite evidence of organic disease.—FRANK W. JACKSON.

PROGNOSIS depends upon the primary condition.

TREATMENT.—*Easily digested iron tonic :*

℞ Ferri peptonati (Merck)..... 3 i.
Elix. calisayæ 3 i.
M. S. 3 i. t.i.d.

Or—

℞ Liq. ferro-mangan. peptonat..... 3 i.
—STANTON.

℞ Ammonii chloridi..... 3 ij.
Tinct. ferri chloridi 3 iv.
Glycerini..... 3 i.
Aquæq.s. ad 3 iij.
M. S. A teaspoonful.

—KATZENBACH.

℞ Ferri sulphatis..... gr. i.
For a pill to be freshly made without gum.

Give three times daily for a week, then two grains at a dose for ten days, and so on until nine or even twelve grains are taken in a day. Then gradually reduce. The course should never be less than three months in duration.

For those who cannot take pills give three or four large teaspoonfuls of saccharated carbonate of iron daily.—T. C. ALLBUTT.

In loss of vasomotor tone, suprarenal extract.

I always use the tincture of the chloride of iron in preference to any other form of iron, considering it much more efficient than any other. In cases which will not bear the strong tinc-

ture, I give it in liquor potassii citratis, thus partially altering it to a citrate.—S. O. L. POTTER.

Medullary Glyceride.—A pound and a half of finely comminuted calves' ribs should be macerated in a quart of pure glycerin, the mass being allowed to stand for several days and being frequently stirred. The glycerin is then strained through cheesecloth and given in doses of from one to four teaspoonfuls three times daily, with a few drops of peppermint essence. The immediate improvement in the state of the blood and subsidence of symptoms, which certainly go together, are no less wonderful than is the improvement that follows the use of thyroid extract in myxœdema, though the gain is more permanent than in the latter.—ALLAN McLANE HAMILTON.

Hydræmic anæmias are greatly improved under thyroid, if iron be also given.

In anæmic children :

℞ Ferri carbonatis saccharati gr. ss.
 Hydrargyri chloridi mitis gr. $\frac{1}{10}$.
 Sacchari lactis gr. ij.
 M. S. For one tablet. Give in a teaspoonful of milk three times daily.

—KOPLIK.

If associated, as is often the case, with symptoms of scrofula, ferrum dialysatum mingled with simple elixir will be readily taken, and is particularly beneficial.—F. P. HENRY.

In the anæmia of pregnancy, associated with weak heart, but without organic lesion:

℞ Spartein. sulph 0.01
 Ferri oxalat. 0.10
 Ext. gentian.,
 Ext. liquirit. ãã q.s.
 Ft. pil. No. i. D. tal. dos. No. **xxx**. S. Take one pill after each meal.

—CUMSTON.

Iron often acts better when oxygen is also administered artificially. One of the best tonics is furnished by sulphur baths. Much of the benefit obtained at Bad Nauheim and by the Schott

treatment is probably due to the relief of anæmia.—BEVERLEY ROBINSON.

Caution.—Do not give iron simply because there is anæmia. In all febrile anæmias it does mischief, as in acute articular rheumatism and in phthisis.—W. H. THOMSON.

In anæmic females :

℞ Pulv. ferri 3 i.
 Ext. hyoscyami..... 3 ss.
 Ext. aloes pulv..... gr. v.
 M. ft. pil. div. No. xxx. S. One t.i.d.

—GEORGE F. SHRADY.

A powerful remedy is the extract of red bone marrow in tablespoonful dose.—GARRIGUES.

Anæmia with weak heart action, and as a nerve tonic :

℞ Tinct. ferri chloridi,
 Tinct. digitalis.....āā 3 v.
 Acidi phosphorici diluti..... ʒ i.
 Aquæ,
 Glyceriniāā q.s. ad ʒ iv.
 M. S. Shake and take through a glass tube a teaspoonful in a wineglass of water after each meal.

—A. VANDER VEER.

In *acute anæmia* caused by post-partum hemorrhage, and in any primary anæmia, give copious rectal injections containing one and one-half teaspoonfuls of common salt to the quart of water.

To meet the digestive defects :

℞ Hæmogallol..... ʒ ij.
 Fel. bovis inspiss..... ʒ ij.
 Ext. pancreatini ʒ ij.
 Strychninæ sulphatis..... gr. i.
 Caffeinæ muriat ʒ i.
 Ext. colocynthidis..... gr. x.-xx.
 Ext. taraxaci ʒ i.
 M. et ft. pil. xl. S. Two t.i.d. after meals.

—PORTER.

Anæmia, especially when accompanied by cardiac disturbances, such as weakness and irregularity of the pulse:

℞ Iron by hydrogen.

Powdered camphor āā 3 iss.

Extract gentian grs. cxxxv.

Mucilage gum arabic q.s.

Make ninety pills. Dose, two or three thrice daily.

—EDLEFSEN.

Anæmia, Cerebral.

Syncope or acute cerebral anæmia, as it occurs after a decided loss of blood or in fainting, is attended by pallor, cold clammy perspiration, dilatation of the pupils, convulsions, and loss of consciousness.

TREATMENT.—In a fainting-fit the patient should be placed so that the head is lower than the body. Iced or cold water should be dashed into the face, strong smelling-salts or ammonia placed beneath the nostrils, and, unless the patient recovers sufficiently to swallow small doses of some stimulant, brandy may be injected subcutaneously.

℞ Tinct. ferri chloridi.... ʒ i.

Quininæ sulphatis..... ʒ i.

Solve et adde:

Potassii bromidi ʒ i.

Aquæ fontanæ..... ʒ xxiv.

Liq. potassii arsenitis..... ʒ iiss.

M. S. 3 ij.—ʒ ss. in a little water after each meal.

—PASQUET.

When there are epileptoid seizures:

℞ Potassii bromidi ʒ i.

Ferri bromidi..... gr. iv.

Aquæ ʒ ij.

Syr. simplicis..... ʒ vi.

M. S. Tablespoonful twice daily.

—BARTHOLOW.

Anæmia, Chlorotic.

Chlorosis, or the idiopathic form of anæmia which occurs in young girls, is attended, as the name implies, by a greenish hue

of the pale skin, and must be distinguished from the essential anæmias, in which the color is more like that of straw.

DIAGNOSIS.—The condition is marked by pronounced languor, irregularity of the menses, and “pearly” appearance of the eye, certain disturbances of the nervous system, dyspnœa, palpitation, and a venous hum in the vessels.

Gastralgia is also a common symptom, and ulcer of the stomach is to be watched for. Digestive disturbances are found and constipation may exist. Many instances of chlorosis as well as other anæmias are found in association with intestinal worms. The appetite is apt to be capricious, and many subjects show a fondness for such articles as slate pencils, clay, vinegar, pickles, or other unnatural things, as well as for sweets and starches.

The hæmoglobin, as shown by Gowers’ hæmoglobinometer, may be reduced to one-quarter the normal and the number of red blood corpuscles is decreased. The diagnosis should be largely if not wholly based upon blood examination.

A symptom pointed out by Bouchard is a pigmentation upon the dorsal surface of the fingers near the joints.

Almost all cases show at least a trace of albumin in the urine.

DIFFERENTIATION is also to be made from pernicious anæmia and from pseudo-chlorosis, which also occurs in men and at a more advanced age, and is usually an indication of some systemic affection. See table on page 28.

PROGNOSIS.—Chlorosis very rarely proves fatal.

TREATMENT.—The loss of iron from the system is an indication for its administration, and in many cases, if the proper form and quantity in which to administer it can be found, its action seems almost specific. The protochloride, the protoiodide, the lactate, or the citrate of iron and ammonium may be given at first in moderate dose, but it is essential that it should become well digested.

Blaud's pills properly prepared are still the best means cure chlorosis, to be preceded by a very mild laxative before breakfast.—LEONARD WEBER.

Caution.—Chlorotic patients should rarely be sent to the seashore, where even the lymphatic type receives no benefit and may have the conditions aggravated. Very high altitude also contraindicated in most instances.

More torpid cases are better influenced by the seaside; more excitable by sheltered mountain resorts not too high. If there is considerable dilatation [of the heart], not above three thousand feet.—HERMANN WEBER.

As adjuvants, country air, perfect rest, milk diet. No medicine than is absolutely required.

Weak sulphur and saline baths have frequently been found of much benefit. Compressed-air baths have, in a number of instances, been followed by noted amelioration.

Hot-air bath, by placing several spirit lamps in a metal-lined box at the foot of the bed while the bed is covered with barr hoops over which oilcloths are suspended, the patient being well covered excepting the head, to which an ice bag is applied. The temperature, at first 130° F., can be subsequently raised to 150° F.—TRAUGOTT.

℞ Ferri et potassii tartratis,
Liq. potassii arsenitis 55 4 gm.
Aque destillate 12 "
M. S. Twice daily five to ten drops in wine before meals.

As an adjunct to treatment, phosphorus.—ANGELO CASATI

℞ Liq. ferri sesquichloridi (Ph.G.) gtt. i.
Three times a day in a wineglass of water, gradually increased until twelve drops daily are given.

—ISRAEL.

When iron fails or is inadmissible :

Give oxygen inhalations under the pressure of half of an atmosphere and diluted.—CORISH.

Or a suitable diet in which animal proteids, bone marrow and dark beer are the principal constituents.—SIMON.

Without perfect rest iron will often be productive of very little good. Exercise may be injurious, especially in cardiac complications.—F. TAYLOR.

Raw thymus gland of calf, 3 v., daily for a month, minced or in soup, gave excellent results.—BLONDEL.

A combined treatment: Intestinal antiseptics followed by iron gives better results and a greater weekly gain in hæmoglobin than either alone.

℞ Naphthol (Beta)..... gr. ij.

Ft. tab. No. i. S. One such three times daily.

℞ Pil. Blaudii..... gr. v.

Three daily.

—TOWNSEND.

Or in large dose, as many as forty-eight pills being given by the fourth day and continued for three or four weeks.—BRAMWELL.

Bone marrow in glycerin extract.—JOHN S. BILLINGS, JR.

Bone marrow, 3 ii., in a wineglassful of sherry, t.i.d. Iron with manganese, protonuclein, strychnine, an occasional mercurial cathartic followed by sodium phosphate as a routine laxative. Occasionally:

℞ Manganese arseniate..... gr. $\frac{1}{10}$.

After each meal.

—BLOOM.

℞ Ferri et potassii tartratis 10 gm.

Ext. cinchonæ 10 “

Glycerini 20 “

Aquæ destillatæ..... 10 “

Vini (Madeira) q.s. ad 1 litre.

M. S. As a tonic.

—PATEIN.

In true idiopathic chlorosis, when iron is ineffectual, sulphur will produce a marked amelioration. After sulphur is used, iron can again be resorted to, and it becomes very beneficial.

Caution.—Sulphur should not be used when chlorosis is

complicated with catarrhal or inflammatory conditions of the digestive tract.—SHULTZ.

Neutral acetate of copper, one centigram dose.—LIÉGEOIS.

℞ Tinct. strophanthi,

Aquæ amygdalæ amaræāā 3 ij.

M. S. Gtt. x. t.i.d.

In severe forms approaching the pernicious, with rapid destruction of globules, and in glandular forms, give protoxalate of iron, alternating each month with an arsenical water.—MARTINET.

Iodine or iodothyrim.—CAPITAN.

℞ Tinct. ferri chloridi..... ʒ i.

Quininæ sulphatis..... gr. xx.

M. S. Gtt. xx. ter in die, in sweetened water through a tube.

—S. D. GROSS.

℞ Vini ferri amari ʒ viij.

Tinct. nucis vomicæ 3 iv.

Liq. potassii arsenitis..... 3 ij.

M. S. 3 ij. in a wineglassful of water after meals.

—T. G. THOMAS.

℞ Ferri arseniatis..... gr. ij.

Ext. cinchonæ gr. xij.

M. ft. in pil. No. xij. S. One after each meal.

—BARTHOLOW.

DIET.—Girls who are “worn out” in the forenoon should have a hearty breakfast or drink half a litre of the best milk while still in bed, in small quantities at intervals of fifteen minutes. Dry friction on arising.

Breakfast: Small cup of tea, buttered toast, and plenty of meat; two and one-half hours later bread and butter and two eggs, followed by a quarter litre of milk.—CARL VON NOORDEN.

Diet is not alone sufficient to repair the losses of hæmoglobin. Rest ameliorates but does not cure. Salt baths, not too strong, are often useful.—LE GENDRE.

The methodic application of hygienic measures constitutes the true treatment. Iron should hold the place of an adjuvant.—FERNET.

The preventive agents of first importance are proper exercise and proper diet. The blood of girls who take abundant open-air exercise approaches that of the male. The tendency of chlorotics to avoid meat and green vegetables from which the iron supply is mainly derived must be checked.—LLOYD JONES.

In chronic forms the following combination is most serviceable:

R̄ Tinct. ferri perchloridi.....	℥ x.-xx.
Spt. ætheris	℥ x.-xv.
Tinct. nucis vomicæ.....	℥ x.
Tinct. quassiæ	℥ xxx.-xl.
Aquæ.....	ad 3 iss.

M. S. To be taken twice a day, an hour before luncheon and dinner.

—LATHAM.

Anæmia, Pernicious.

Pernicious anæmia is an idiopathic affection whose chief feature lies in the marked reduction in the number of red blood corpuscles. This reduction is determined by measurement, which shows often a million or less to the cubic millimetre, which number can be increased by treatment to three times this amount. The hæmoglobin is not decreased and at times may be relatively abundant. The average diameter of the cells is greater; nucleated red cells are present, as are also myelocytes, and as compared with the polymorphonuclear cells there is a relatively small percentage of lymphocytes.

DIAGNOSIS.—Clinically the pallor is greater in this than in the other anæmias and the skin has a lemon tint. There is little or no emaciation or change in the various organs, which examination will reveal. The urine is of high specific gravity, which may alternate with low gravity, and this in itself points to an idiopathic condition. Hemorrhages into the skin as minute petechiæ, and into the retina as seen with the ophthalmoscope, or into the meninges, are sometimes present to distinguish the condition from one of simple anæmia. There are usually gastric disturbances, feebleness of heart action, possibly œdema

of the eyelids. An important point is that the spleen and lymphatic glands are not enlarged. Fever of irregular type, with morning remissions, is sometimes noted. Upon puncture of the pale skin a drop of blood sufficient for examination is at times scarcely obtainable. Poikilocytosis (the projection of the substance of the cell making it of irregular outline) is almost constant, and megaloblasts (large nucleated red cells) are habitually present, which fact is regarded by Ehrlich as almost distinctive of the affection. Hunter believes a characteristic symptom is the increased average size of the red cells and their contained proportion of hæmoglobin.

DIFFERENTIATION.—Carcinomatous ulceration may present at times much the same clinical picture.

Blood examination distinguishes the condition from many others including malaria. (See table, page 25.)

PROGNOSIS.—This is not so grave to-day as it was thought to be a few years ago. There is much to be hoped for in treatment, although most cases terminate fatally. The greater the proportion of megaloblasts, the graver the prognosis.

TREATMENT should conform so far as possible to such etiological conditions as can be determined. In approaching the treatment of a case of pernicious anæmia, you ought always to attempt to ascertain whether the case before you is one of those connected with atrophy of the gastric tubules. In some of these cases the catarrhal symptoms are marked and the power of digestion is profoundly reduced; and such cases may properly be called pernicious anæmia of gastric origin.—PEPPER.

Rest in bed, careful feeding, milk being at first made an exclusive diet. From the very fact that these patients suffer from an auto-intoxication originating in their alimentary tract, such remedies as beta-naphthol, subgallate of bismuth, bismuth salicylate, resorcin, benzo-naphthol, and other intestinal antiseptics have here their indication. Intestinal parasites should be sought for and destroyed. Arsenic has been employed prob-

ably more often than any other drug, and in many instances is followed by happy results. Ferruginous tonics and especially the tincture of the perchloride of iron in large doses would naturally suggest themselves, and in fact iron has in many instances given surprising results and even apparent cures, but it must be long continued. Whenever a source of bleeding or a weakening discharge is found, it should be brought under control.

Patera injected five milligrams of corrosive sublimate daily for two months with excellent results. Since syphilis is a frequent underlying cause, the benefit from mercury may be thus explained. Fowler's solution may be given in doses of from five to twenty-five drops three times daily.

Caution.—If no marked improvement in the state of the blood has occurred within a reasonable time, pushing these drugs beyond the maximum dose must be guarded against.

In case of gastro-intestinal disturbances arsenic by the mouth.

℞ Liq. potassii arsenitis
Aque destillatæ.....ââ gtt. x.
S. Inject hypodermatically.

℞ Liq. potassii arsenitis 3 i.
Aque destillatæ..... 3 ij.
S. One drachm injected into the rectum morning and night.
—VINAY.

In progressive pernicious anæmia :

℞ Salol..... gr. x.-xv.
To be continued for a long time.
—DIEBALLA.

Red marrow of the calf mixed with an equal quantity of glycerin rubbed up in a mortar gives a pleasant-tasting preparation, which can be eaten upon bread, or port wine may be added to it.—ALFRED STENGEL.

℞ Fowler's solution..... 3 iiss.
 Acid phosphate..... ʒ iiij.
 Extract of bone marrowup to ʒ viij.
 M. S. Dessertspoonful after each meal.

—J. N. DANFORTH.

In an instance of apparent collapse Ewald tried transfusion of eighty-five centimetres of defibrinated blood. Two weeks later the blood showed a gain of 1,000,000 red corpuscles to the cubic centimetre and an increase of four per cent in the hæmoglobin. Five months later the corpuscles numbered three and one-half millions.

To correct intestinal fermentation :

℞ Ichthyol..... gr. iiij.-v.
 In capsule an hour after each meal.

℞ Resorcin..... gr. xv.
 In capsule or dissolved in castor oil.

℞ Salol,
 Bismuthi salicylatis.
 Sodii bicarbonatis.....ãã gr. v.
 In cachet.

Strychnine in moderate dose, inhalations of oxygen.

In advanced stages, oxygen, arsenic, and transfusion of normal blood.—CLARKE.

Anæmia, Persistent and Progressive.

Hodgkin's disease, pseudo-leukæmia, or lymphatic anæmia presents symptoms of anæmia along with or before the development of enlarged glands, which characterize the affection.

There may be fever of variable degree.

DIFFERENTIATION is to be made from acute and chronic adenitis, chiefly by the subsequent developments, the glands in Hodgkin's disease becoming much larger and being usually of soft consistence. Tuberculous glands form masses closely adherent to each other and to the surrounding tissues, while in this affection they are loosely implanted and freely movable.

The age in pseudo-leukæmia is usually greater than that in tuberculous disease and suppuration does not occur. Lymphoma grows more slowly and is of harder consistence. Sarcoma in its earlier stages, involving groups of glands, might cause one to think of this affection, but surrounding tissue involvement and destructive ulceration would make the differentiation clear. One chief characteristic of lymphatic anæmia is the number of gland groups affected and the habitual tendency to spread.

Leukæmia is excluded by absence of hemorrhages and diarrhœa.

PROGNOSIS.—Death usually occurs within two years.

TREATMENT.—Nineteen recoveries in seventy cases treated by arsenic.—KISEL."

Only large doses seem effective. Fowler's solution as well as iodine preparations have been administered by injection, the former in dose of thirty minims daily.

Sheep's spleen, lightly grilled, ameliorated the condition in one instance.—BLOOMFIELD.

Anæmia, Symptomatic.

This includes the so-called splenic, that occurring in rachitic and luetic children, etc. The anæmia is secondary and remains subordinate.

Anchylostomum Duodenale.

This variety of intestinal worm, found in European countries, Asia, Africa, and South America, is very rarely observed in the northern part of the United States. It resembles somewhat the *oxyuris vermicularis*, or rather more the intestinal *trichinæ*. Dr. F. G. Mölhau, of Buffalo, has reported an instance.

There are no pathognomonic signs apart from the discovery of worms or ova in the dejections, anæmia, fulness, diarrhœa.

TREATMENT.—*After mild purgative :*

R Thymol,

Sacchari lactis.....ãã gr. xxx.

Triturate and shake in water. Give on an empty stomach in the morning, followed in two hours by a second dose. If after eight days ova are found in the stools, repeat.

Caution.—Thymol should not be given in solution, since, if absorbed in considerable quantity, it may prove toxic.—STYNSEY.

Aneurism of the Aorta.

DIAGNOSIS.—These blood-containing tumors of the aorta may be latent for a considerable period of time. The first evidences of their presence are often the pressure symptoms, producing sharp pain when a nerve is involved, or dull and boring when bone is implicated; dyspnœa, dysphagia, aphonia, or brassy cough, and other signs, depending upon the anatomical relations. These pressure signs may be insignificant or they may be so pronounced as to overshadow all other signs. Dysphagia may be detected before other signs are prominent, by having the patient swallow while a stethoscope is applied to detect the redoubled sounds.

There is also a purring thrill, closely simulating contact with the body of a purring cat. The pulse is of great value as a diagnostic aid, as shown by the sphygmograph; the pulse of one side may be normal, while that of the other may show a curve less high and the secondary wave less pronounced.

The physical signs are of aid only when the tumor has grown to large proportions or when the ascending aorta is implicated. The characteristic thrill, observed through the stethoscope, is considered by some as almost pathognomonic; this thrill is also noticed on palpation. Œdema about the neck, face, or arms may be an early sign of pressure upon veins. There may be paralysis of the left vocal cord.

Cervico-occipital neuralgia is an important indication of beginning aneurism of the aorta.

Caution.—When this symptom is present, do not treat with cold douches, mountain climbing, superalimentation, etc., which may hasten a fatal termination.—LEVACHEV.

In the initial stage there may be pain confined to the walls of the vessels. Symptoms are more marked in arch cases.

When evidence by other means is incomplete, an œsophageal bougie, closed at the lower end, is passed into the œsophagus until the point has a little more than reached a position opposite the site of the suspected aneurism. The upper end of the bougie is connected, by means of a rubber tube, with a bent (manometer) glass tube. This is filled with water, and the result is even better when the bougie and rubber tube also are filled with water. The expansion of the aneurism, being confined within the chest wall, is sometimes so well transmitted through the adjacent structures as to be plainly shown in the glass tube.

Caution.—Do not pass the tube so far down as to be deceived by the heart's impulse.—WILLIAM PORTER.

Rhythmic nodding of the head, ascribed to downward traction of the left bronchus and trachea during systole, is at times present in aneurism of the arch. It must not be confounded with muscular contraction or with the rhythmic nodding of certain nervous diseases.—TELETTI.

Before the appearance of recognized physical signs there may be a systolic sound in the brachial artery, synchronous with the cardiac systole, sometimes accompanied by an arterial murmur. If aortic regurgitation can be excluded, a positive diagnosis of aneurism can be made.—GLASGOW.

Auscultation will also sometimes reveal an arterio-diastolic sound, not perceptible at the emergence of the aorta, produced by contraction or dilatation of the aorta. The pulsation is also a valuable indication in such cases; also a heart-systolic coarse râle.—GERHARDT.

DIFFERENTIATION.—Stenosis of the aortic orifice is distin-

guished by the characteristic wire pulse and the absence of tumor or of pressure signs.

Cardiac hypertrophy may cause confusion in diagnosis at first, but later aneurism is excluded by the absence of characteristic signs.

The *x*-rays may disclose a round tumor pulsating in all directions.—SCHMITZ.

TREATMENT.—

℞ Potassii iodidi 1-2 gm.
Repeat three or four times daily. —BARTHOLOW.

Mercurial inunctions when lues is present. Low diet.

℞ Acidi gallici 3 i.
Ext. ergotæ,
Digitalis āā gr. xx.
M. ft. pil. No. xx. S. One every two hours.

℞ Plumbi acetatis gr. xxxvi.
Ext. opii gr. iv.
Confect. rosæ q.s.
M. ft. pil. No. xij. S. One every four hours. —POTTER.

Antipyrin mitigates the pain of aortic aneurism.—MARTIN.

To render the blood more coagulable, or when beyond the reach of surgical intervention :

℞ Gelatin 1
Salt solution (one per cent) 100

First sterilize, then inject as much as fifty cubic centimetres into the circulation. As much as two quarts has been used in a two months' course, with relief of the severe subjective symptoms.—LANCEREAUX.

Thirty grains of calcium chloride daily.—WRIGHT.

Inhalation of carbonic acid gas.

Angina, Diphtheroid.

Pseudo-diphtheria or non-virulent angina has its chief importance in the necessity of distinguishing it from atypical diphtheria or from the non-membranous type. The term should include membranous laryngitis or croup.

DIAGNOSIS.—Many instances can scarcely be distinguished

either by the local signs or general symptoms from the sore throat of scarlatina. It is by bacteriologic examination alone that we can be at all sure, and even with this aid laryngeal cases beyond the reach of the swab will baffle the expert.

PROGNOSIS.—Uncomplicated non-laryngeal cases do well. There is always danger of suffocating in croup, and many deaths occur.

TREATMENT.—The treatment of tonsillitis and pseudo-membranous croup will be found elsewhere.

Pseudo-diphtheria requires much the same management as that given under "Diphtheria," according to the mildness or severity of the symptoms, excluding of course antitoxin.

In simple angina :

R Potassii chloratis	3 iss.
Potassii bromidi.....	3 ss.
Ext. belladonnæ	gr. iv.
Syr. limonis.....	3 i.
Syrupi	q.s. ad 3 iv.

M. S. Teaspoonful thrice daily.

—PEPPER.

In infectious angina :

R Essence of petroleum.....	20 gm.
Sulphuric ether.....	5 gm.
Powdered iodoform.....	0.5 cgm.
Essence of mint.....	gtt. xx.

M. S. Apply.

—DUMONT.

In gangrenous angina :

R Ext. cinchonæ	2
Aquæ menthæ piperitæ.....	18
Inf. anthemidis.....	20
Syr. althææ.....	40

M. S. Teaspoonful frequently repeated.

—DESCROIZILLES.

Angina Ludovici.

True idiopathic angina, as described by Ludwig, presents an acute phlegmonous cellulitis with features of great gravity. There are diffuse brawny œdema and a wood-like hardness of the tissues overlying the lower jaw, the suprahyoid region, or per-

haps involving the face and extending down upon the sides of the neck, and sometimes implicating the tongue, which is thrust toward the palatal vault. The floor of the mouth, the tonsils, etc., may take part in the swelling.

DIAGNOSIS.—There is severe dyspnœa as an early symptom. Swallowing is painful and oftentimes opening the mouth sufficiently to eat is out of the question.

A uniform and rapid spread with a constant bordering zone of unaffected cellular tissue, hard swelling beneath the tongue, and a deep red-colored or bluish appearance of the swollen tissues along the inner side of the lower jaw will serve as distinguishing features.

DIFFERENTIATION.—Traumatic angina from injury in the region of the neck and direct septic infection may present much the same picture; so, too, inflammations extending through lymphatic channels from disease and operations about the mouth. Erysipelatous angina is distinguished by enlargement of the glands; actinomycosis by the discovery of the ray fungus in the discharges.

PROGNOSIS.—The diffuse phlegmonous inflammation of the intermuscular and subcutaneous tissues may end in gangrene, in abscess formation, or in resolution. In forty per cent death results.

TREATMENT is supporting, antiphlogistic, and surgical. Early incision and rigid antisepsis are required.

Angina Pectoris.

DIAGNOSIS.—There is terrible pain, which occurs suddenly in the heart region, in this affection, accompanied by difficult breathing, a sensation of chest constriction, and distressing apprehension with a fear of impending death.

The pain lasts for a few minutes or possibly only a few seconds, or the effects of an attack may persist for hours. There are pallor, cold sweat, and a drawn expression and fixed

gaze, rigid extremities, weak heart action, diminished pulse volume, and what Richardson has called "syncopal unrest."

The pain radiates down the left arm. Flatulency habitually follows the attack.

DIFFERENTIATION.—This is made from other pains similarly located and occurring in a similar manner by their radiation in true angina to the shoulder and down the left arm.

It is to be distinguished from pseudo-angina pectoris, which is, according to Huchard, at times a neuralgia of the cardiac plexus variously produced; at other times a vasomotor neurosis, occurring chiefly in neurasthenics, hysterical women, and victims of digestive disturbances. The pain here lasts for one-half hour or more. It differs from true angina, in that there is absence of serious heart lesion, but it is often accompanied by nervous palpitation of the heart, followed as in the true form by copious micturition of light-colored urine of low specific gravity.

In essential paroxysmal tachycardia the anginal pains resemble those of angina pectoris, radiating perhaps to both shoulders and arms, and are somewhat relieved, in part at least, by firm pressure upon the limb.

In colic, at times suggested by the after-evidences of gas, the pain is lower, and not of the crushing, screwing, vice-like nature.

The following table by Huchard gives the essential points of distinction between true and false angina pectoris:

<i>True Angina.</i>	<i>Hysterical Pseudo-Angina.</i>
Most common between forty and fifty years.	At every age, even six years.
Most common in men. Attacks brought on by exertion.	Most common in women. Attacks spontaneous.
Attacks rarely periodical or nocturnal.	Often periodical and nocturnal.
Not associated with other symptoms.	Associated with nervous symptoms.
Vasomotor form rare. Agonizing pain, and sensation of compression by a vice.	Vasomotor form common. Pain less severe. Sensation of distention.
Pain generally of short duration; attitude; silence; immobility.	Pain lasts one or two hours; agitation and activity.
Lesion, sclerosis of coronary artery.	Neuralgia of nerves.
Prognosis, grave, often fatal.	Never fatal.

The simple or coronary form is distinguished from that associated with dry pericarditis, in which the pain is situated at the base or middle of the sternum, in the epigastrium, or over the cardiac area, by auscultation showing a to-and-fro friction, heard coincidently with the cardiac movements. Hyperæsthesia in the precordial region is usually present, and a history of preceding tonsillitis and rheumatism. Here, too, vasodilators and stimulants do not give relief.—PAWINSKI."

PROGNOSIS.—Since the affection is in most cases associated with lesions of the heart, prognosis must be guarded.

We are not justified in looking upon such attacks lightly, because of the serious disorders which may lie behind them, and for the further reason that an attack of true angina may terminate life through the sudden obliteration of the coronary arteries by thrombosis or embolism. However, when the pulse remains regular and without high tension, and in the absence of valvular lesions or disease of the myocardium, the patient may continue to have such attacks, extending through many years and producing many distressing symptoms, without any real danger to life. Sudden death may occur during the course, or at the end of a painful paroxysm, or by sudden syncope unattended by pain.

If dilatation of the heart occurs, paroxysms may cease. The prognosis is more favorable in dilatation than in myocarditis or hypertrophy.—J. H. MUSSER."

TREATMENT.—*Prophylaxis* must be directed to the underlying condition of the heart in the intervals of attack. All excesses, sudden or unusual exercise, and exertion are to be guarded against.

R̄ Erythrol tetranitrate..... gr. i.
Ft. tablet No. i. S. Every eight hours.

—J. B. BRADBURY."

R̄ Potassii iodidi gr. xv.

Three times a day for twenty or twenty-five days of each month for several years, nitroglycerin being given in small doses in the intervals.

—HUCHARD.

Relieve exciting causes. Avoid applications of cold water to the body when an attack is excited by cold. Keep the hands gloved. Avoid mental worry, emotions, overexertion, and even needless exertion. Relieve visceral engorgement.—H. N. HEINEMAN.

Inhalation of the nitrite of amyl furnishes one of the quickest and best means of relieving the attack. Pearls containing three to five drops may be carried by the patient who is subject to attacks, to be crushed in a handkerchief and inhaled at the first premonition. Nitroglycerin, gr. $\frac{1}{100}$ or more, may be given with the same aim, or in some instances the most prompt relief is obtained by a full dose of morphine hypodermatically, angina patients often showing great tolerance of the drug.

General tonics, oxygen gas.—A. H. SMITH.

Iodide of potassium to diminish the heart's work and prevent aortitis.

Caution.—Do not give iodides in advanced degeneration of the arteries, interstitial nephritis, and cardiac dilatation.

℞ Sodii nitritis gr. v.-x.
Three times a day.

—HAY.

To prevent an attack, avoid gastro-intestinal disturbances or relieve them with saline purgation, blue mass, or calomel.

In flatulency, which often precedes an attack :

℞ Spiritus ætheris comp.,
Spiritus camphoræ,
Aquæ menthæ piperitæ āā ʒ ss.
M. S. Three teaspoonfuls in water or hot whiskey.

—OSLER.

In pseudo-angina treat the underlying hysterical or neurasthenic condition. Sinapisms, mustard baths, moderate doses of Hoffman's anodyne, are often sufficient to cut short a paroxysm, while here, too, at times the hypodermic injection of morphine may be demanded. In treatment, bear in mind the possibility of syphilis of the heart wall.

In complicating cardio-sclerosis and paresis, digitalis.

Caution.—The pulse tension being already high, digitalis as well as ergot is contraindicated for the affection itself.

In renal insufficiency suppress all ptomain-forming food.

When associated with pericarditis, leeches, cupping, warm applications. In later stages, moderate blistering. Digitalis, if indicated by the pulse.—PAWINSKI.

Caution.—Except in excess of dilatation digitalis is not to be given.—MUSSEY.

R Nitroglycerin gr. iij.
 Tinct. capsici..... 3 ss.
 Spt. vini rect.,
 Aquæ menthæ piperitæāā 3 iij.

M. S. Two to ten drops. Dose to be increased with caution as the patient grows accustomed to the effects. Pain is relieved within three minutes.

—SCHOTT.

During the interval most careful and abstemious diet, especially toward evening. Vascular stimulants in combination with cardiac tonics, especially arsenic. Exercise is to be avoided; and undertaken only when duly prepared for by the ingestion of some vascular stimulant.—BALFOUR.

In rheumatic cases, sodium salicylate, rest, even temperature, and dietetic care are always important.

Constitutional conditions underlying angina pectoris and capable of treatment include especially syphilis and gout. Genuine angina in a man under thirty-five years of age should arouse a suspicion of syphilis, and vigorous measures should be adopted.

In gouty cases, secure free elimination by the bowels, skin, and kidneys, and at intervals give a course of colchicum.

In the chronic form with dyspnoea and Cheyne-Stokes breathing, full doses of strychnine, hypodermically, may be employed, from a fortieth to a twentieth of a grain, three or four times a day. Special care should be taken that the bowels are kept freely open.—OSLER.

Instances of cure have been recorded under the use of powdered valerian root (Wichmann, Jurine), of asafoetida, of camphor, of extract of hemlock (Johnston), of sulphate of zinc (Perkins), of flowers of sulphur (Munk), of Fowler's arsenical solution (Alexander, Cahen), bicarbonate of sodium and belladonna (Bretonneau).—J. KNOTT.

In the attack, amyl nitrite by inhalation.—LAUDER BRUNTON.

R Nitroglycerin..... gr. $\frac{1}{100}$.
Three or four times daily for one or two weeks.

In syncope, hypodermic injection of nitroglycerin, ether, or caffeine.

When ordinary remedies and doses do not give relief, hyoscine hydrobromate, gr. $\frac{1}{8}$ hypodermatically, may give speedy relief.—W. W. BOSTWICK.

Caution.—This is large, especially for an initial dose.

Nitroglycerin acts best in the pure angio-spastic forms of angina pectoris, not so well in the pain of aortic disease, and still less favorably in that due to myocarditis or fatty heart. It is of little value in the pains of aneurism, and is generally useless in the pure motor neuroses of the heart.

Its action in different subjects can never be predicted. If toxic symptoms appear after the exhibition of a small dose, it is best to discontinue the drug. If no toxic symptoms appear, gradually increasing doses can be given with safety. It acts with remarkable rapidity, the height of its physiological effect being reached in two or three minutes. When several small doses are without effect, larger doses should be given. Sometimes a single large dose acts best.

More than one-sixty-fifth of a grain cannot be given in a single dose.—SCHOTT.

In the attack, chloroform may be poured on a sponge in a smelling-bottle, and the patient told to breathe it through the nose as deeply as possible. In a minute or two relief is ob-

tained, and as the patient comes under the influence of the drug the bottle drops from his hand, and there is in this way no danger of an overdose.—BALFOUR.

For the paroxysm :

R Amyl nitritis.

S. Place three to five drops on cotton wool in the bottom of a wineglass ; to be inhaled.

—OSLER.

Hot applications to the chest, faradization of the cardiac region, administration of diffusible stimulants, belladonna, and small doses of opium.

R Spiritus glonoini..... 3 ss.
 Spiritus chloroformi 3 ss.
 Tinct capsici 3 i.
 Aquæ menth. pip.....ad 3 i.

M. S. A teaspoonful every four hours, with an extra dose immediately at the onset of the attack.

Drachm bottles may be conveniently carried in the pocket for use in emergency, as well as for the regular daily dosage. As tolerance is established the dose can be increased, and, as long as well borne, pushed with a free hand.

Caution.—Severe throbbing pain in the head should lead to “easing off” the dose.—MURRELL.

When cardiac or renal lesions exist :

R Diuretin..... 1 gm.
 Three such doses daily as maximum.

—LEFERT.”

Caution.—A somewhat dangerous drug.—GLEY.

Anosmia.

Loss of sense of smell is usually caused by injury to the head, as in a fall upon the occiput, though history of such injury may not always be forthcoming. The olfactory nerves may be torn in their passage through the lamina cribrosa of the ethmoid.

TREATMENT.—*In essential* form without nasal lesion, daily irrigation with Weber siphon and—

℞ Quininæ sulphatis 0.1 cgm.
 Bismuthi subnitrat. 10 gm.
 To be snuffed three times daily.

Then electricity.

In hysterical, faradization to the root of the nose until actual pain is produced.—BIBARD."

Anthrax.

Malignant pustule, while rare in this country, is of sufficiently frequent occurrence in some portions of the world to make its differential diagnosis of importance. It may be transmitted to man by the stings and bites of insects. At the point of inoculation, which is frequently upon the face (lip) or neck, after a few hours or days a vesicle develops, which may increase in size and become filled with clear or sanious fluid drying up into a blackish crust. Similar vesicles may form in the neighborhood and be surrounded by inflamed and infiltrated areas.

After a day or more there are fever, general weakness, and depression, pain in the limbs, diarrhœa, and often delirium preceding collapse and death. In internal anthrax affecting the gastro-intestinal mucosa we may have besides the above-named symptoms, vomiting, abdominal pain, enlargement of the spleen, dyspnœa, and even convulsion of an epileptoid character, resulting in death within twenty-four hours.

DIFFERENTIATION.—From carbuncle, by its development upon exposed parts and not so often upon the back of the neck; by the occurrence of brawny œdema rather than of boggy infiltration; by the blackened central crusts rather than multiple openings; by the presence of the characteristic anthrax bacillus; by the inoculation of a guinea-pig if grave doubt is entertained. In internal forms the diagnosis is sug-

gested by the occupation, wool sorters and those who handle hides being more exposed to inoculation.

PROGNOSIS.—The prognosis is favorable only when the affection is of limited extent and can be radically attacked. Death most frequently occurs after brief delay, with symptoms of general pyæmia. General infection of the system with the bacillus is probably always fatal.

In internal anthrax, it is stated that if the subject survives for a period of five days he may recover.

TREATMENT.—Internal antiseptics of almost any kind are indicated, though no particular one can be said to be efficacious. In anthrax of the skin everything may depend upon early and thorough excision, if the lesion be sufficiently circumscribed. Eighty-five per cent of recoveries are said to follow this plan. Cauterization with fuming nitric acid or caustic potash thoroughly carried out, scarification, curettage followed by the application of caustics and antiseptics, and when there are much surrounding infiltration and œdema, by the intradermic injection of carbolic acid or other antiseptics. If there is much accompanying inflammation and lymphangitis exists, hot or cold fomentations. Injection of iodized water around the pustule, applications of oxygenated water, and inhalations of oxygen; or injection of a two-per-cent or three-per-cent solution of carbolic around the pustule thrice daily, and over it compresses wet with a solution of the same strength.

Antistreptococcic serum.

℞ Hydrargyri bicyanidi	1
Aquæ destillatæ.....	100
Cocainæ salicylatis	q.s.

M. S. Inject from half to one syringe-ful subcutaneously and cover the area with sublimate compresses.

—KEDROFF.

Injection of blood serum of goats immunized to anthrax.—
SCLAVO.

℞ Tinct. iodi 1 gm.
 Aquæ 200 "

M. S. Inject ten drops subcutaneously around the pustule.

—VERNEUIL.

Apply ammonia externally, give some salt of ammonium internally, and if general infection threatens make intravenous injections.—AVENDANO.

Prophylaxis requires that the utmost care be exercised by those handling hair, hides, etc., and that treatment should be instituted upon the earliest manifestation.

Aortitis, Acute and Subacute.

This may be secondary in the course of typhoid, variola, and other infectious diseases, as well as in rheumatism.

DIAGNOSIS.—Retrosternal pain is a common symptom, radiating similarly to that of angina pectoris. Dyspnœa is peculiar in that inspiration and expiration are both laborious, while the respirations do not exceed thirty or forty to the minute; there is often present the sensation of a heavy weight in the epigastric region, frequently associated with evidences of arterio-sclerosis. Dyspepsia is common; insomnia often distressing.

DIFFERENTIATION.—From angina pectoris, uræmia, asthma, tuberculosis, and hysteria. Pain of a burning or tearing character with sense of restriction is referred to the sternum.

PROGNOSIS.—After three or four months' duration, death.

TREATMENT.—In the attack, counter-irritation, blistering, morphine, oxygen inhalation, nitrite of amyl, ice-bags over the aorta, and rest in semi-recumbent posture.

In threatened heart failure, injection of ether, caffeine, camphor. In very severe symptoms, phlebotomy (RENDU).

Between the attacks, iodides alone or associated with arsenic, and bromides if much nervousness, as well as during painful crises.

In cardiac irritability and general nervousness, valerianate of ammonium.—PLICQUE.

Aortitis, Chronic.

This may be secondary to syphilis, excesses, malaria, gout, and muscular overexertion.

DIAGNOSIS in atheroma due to senility, or when the patch is above the valves, may be impossible. When the coronary arteries are encroached upon, dyspnœa on exertion, tendency to syncope, œdema of lungs and about the ankles, and occasional attacks of precordial pain, show themselves. Difficulty of breathing on exertion in those showing no heart or lung disease should excite suspicion of atheromatous degeneration.

TREATMENT.—As in the subacute form. Absolute rest and milk diet in acute attacks and heart failure. Massage, baths, heart tonics.

Aphasia.

The loss of power of articulate speech or of writing (*agraphia*), while the power of thought, faculty of expression, phonation and hearing remain unimpaired, may be limited to an inability to pronounce some particular word or to recognize it in print (*word blindness*). Right-sided paralysis may be attended with aphasia.

Motor aphasia and word blindness may coexist. The term *amnesic aphasia* is applied to the form of sensory defect of memory in which a word escapes the memory until it is heard pronounced.

Total aphasia, a combination of word deafness with other forms, exists when the middle cerebral or Sylvian artery is plugged by an embolism or thrombosed.—BRAMWELL.

DIAGNOSIS.—Motor aphasia with inability to utter words usually comes on suddenly and is complete at first, all articu-

late utterance being abolished; or a recurring utterance may be repeated.

In auditory aphasia word deafness is constant; imitative speech is sometimes retained.—PERSHING.

DIFFERENTIATION.—Auditory aphasia or word deafness, which is its most constant and characteristic symptom, is distinguished from the amnesic form by commanding the subject to perform some act. This he will be unable to do only if the amnesic form is present.

Visual aphasia is characterized by word blindness, written or printed words conveying no meaning.

DIFFERENTIATION must be made from hysterical aphasia due to nervous excitement, to transient glosso-labial paralysis; also from inco-ordination in inebriates. There are many modifications of the complete form as well as combined varieties, which make reference to works on nervous diseases a necessity.

Aphasia is often present in acute softening of the brain. Functional temporary aphasia may follow an epileptic attack, hysteria, and other conditions.

PROGNOSIS depends on the site and nature of the anatomical lesion. If this is incurable, no improvement can be looked for. Children, however, may be taught to speak even after extensive injury to the speech centres.

TREATMENT.—In amnesic aphasia the attempt must be made to strengthen the defective recollection of words by committing to memory such words as are forgotten. Practise in repeating exercises before a mirror so as to recall the necessary movements.—KARL BOK.

Aphonia.

The inability to speak above a whisper while articulation remains unimpaired may be catarrhal or hysterical in origin. A local lesion may cause the hysterical paralysis.

DIAGNOSIS.—In hysteria this depends at times upon an association with other evidences, at others it is the only sign present. The patient may be able to cough, sneeze, and at times to talk in his sleep or to sing; there is often, too, an ability to raise the voice at such times as other hysterical manifestations are prominently present. Luetic erythema of the larynx may also cause aphonia.

DIFFERENTIATION.—From aphasia

PROGNOSIS.—Recovery often takes place rapidly, but the condition may last one or two years.

TREATMENT.—A confident manner while predicting a speedy cure and the application of a harmless electric current over the larynx will usually give the desired result. An emetic has also promptly restored the voice.

In the catarrhal form :

℞ Zinci sulphatis gr. i.—gr. vi.
 Aquæ ℥ i.
 M. S. Use in inhalation from atomizer.

And—

℞ Ammonii chloridi ℥ ss.
 Strychninæ sulphatis gr. ½
 Syr. pruni virginianæ ℥ iij.
 M. S. 3 i. t.i.d.

—DA COSTA.

In the hysterical form, strong impression made upon the patient by promise to cure, in connection with use of electricity.
 —SANGER BROWN.

Pinch the posterior part of the arytenoids between the thumb and index to produce approximation of the vocal cords.

Atropine, in doses large enough to produce constitutional symptoms, is almost a certain cure.—BARTHOLOW.

In impairment of nerve function in carrying on the mechanical process of breathing:

℞ Ext. valerianæ..... 3 ss.
 Tinct. digitalis..... ℥xv.
 Ext. scutellarie ℥xv.

For one dose, to be given in sweetened water. Repeat every two hours till relief is obtained.

—DAVIS."

In the hoarseness of singers :

℞ Acidi nitrici diluti ℥v.-x.
 In water.

—BARTHOLOW.

Or a piece of borax, the size of a pea, to dissolve in the mouth.—RINGER.

In laryngeal catarrh, inhalation of tincture of benzoin or oil of rue.

℞ Pulv. aluminis gr. x.
 Aquæ ℥i.
 Use as a spray.

℞ Vini ipecacuanhæ ℥i.
 Use as a spray.

℞ Liq. ammoniæ,
 Aquæ āā ℥i.
 M. S. Teaspoonful in hot water to inhale.

—POTTER.

Or in acute forms a Turkish bath.—BRUNTON.

Apoplexy.

Besides the sudden unconsciousness due to alcohol, opium, and other poisons, we have to distinguish that of cerebral hemorrhage from embolism, thrombosis, concussion and shock from head injury, epilepsy, uræmic and diabetic coma, and hysteria.

If we have the history, as given by a friend or relative to

guide us, often no great skill is required. This lacking, we seek evidences of one-side paralysis or loss of sensation by pricking the soles and palms, pinching the skin upon the two sides, while watching for difference in reflex, or by raising the limbs in succession and noting a difference in the manner of their falling, etc. Hemiplegia may be absent in true apoplectic seizures. One widely dilated pupil usually gives evidence of hemorrhage on the same side. Right-side paralysis is attended with aphasia.

DIAGNOSIS.—Cerebral hemorrhage occurs usually after the fortieth year. The most prominent symptoms are the sudden onset, loss of consciousness, convulsions, coma, and, if recovery follows, hemiplegia on the side opposite the lesion. The pulse is usually slow and full. The respiration is stertorous and may be of Cheyne-Stokes variety. If the resulting paralysis is complete, there may be incontinence of both fæces and urine.

DIFFERENTIATION.—From the coma of alcoholism by the drawn appearance of the face, the more profound coma. Too great care cannot be exercised in supervising doubtful cases.

From uræmia by its sudden onset and by the comparative or complete absence of premonitory symptoms.

From softening, the result of embolism, by the age of the patient, the presence or absence of a cause of embolism, such as valvular heart disease or ulcerative endocarditis and syphilis, and the intensity of the symptoms. The paralysis from embolism is more commonly on the right side.

From cerebral thrombosis, by the sudden onset, longer duration of the paralysis and other symptoms, and by the incomplete recovery.

From catalepsy, by its recurrence not being constant, and by the eyes not being widely opened and the pupils not being so susceptible to light, and chiefly by the characteristic relaxation of the muscles.

“When a person has an attack of hemiplegia of a more or less typical character, the rise of temperature on the paralyzed side points to a hemorrhage rather than to a simple obstruction of an artery. On the other hand, when a person has a hemiplegia and the disturbance takes the ordinary course without any difference in the temperature of the two sides, the likelihood of the trouble being due to a softening is much greater.”—DANA.

The differential diagnosis of cerebral apoplexies without motor symptoms is usually easy when a proper history can be obtained. The most important evidence is the sudden onset of the symptoms. If motor symptoms, even though very slight, have been present, this favors the diagnosis. Where we see a patient some time after the appearance of the mental affection and where no history can be obtained, the diagnosis depends: 1, on the character of the mental impairment; 2, on the absence of symptoms pointing to paralytic dementia or to intracranial tumor.—WILLIAM N. BULLARD.”

Babinski's sign gives early information as to which side will be paralyzed.—KOLLARITS.”

This phenomenon is best elicited when the muscles of the lower extremities are relaxed, and the patient with closed eyes knows nothing of the experiment about to be performed. The thigh with the leg slightly flexed is to be supported by the observer's hand and the sole of the foot gently irritated by pricking, tickling, etc. In normal adults the foot will be dorsi-flexed and the toes flexed toward the plantar surface, but if the sign be present, while the foot is flexed as before, the toes are extended. The significance of the phenomenon, according to its discoverer, is that it is present only, though not always, when the pyramidal tracts are diseased.

The following table gives an excellent differentiation between the two conditions in question:

	Hemorrhage.	Thrombosis.
Predisposing conditions.	Frequent before three years of age and between forty and sixty. Peri-arteritis and miliary aneurism the usual antecedents.	Common in old age and in young adults. Endarteritis, atheroma, endocarditis, cachexia, and embolism.
Inciting conditions.	Heredity is often marked..... High arterial tension..... Excitement, effort or shock....	Heredity rare. Low arterial tension. Rarely excitement or effort, except in embolism. Sleep favors it.
Onset	No prodromata..... Sudden stroke usual..... Coma marked..... Rectal temperature reduced and surface temperature elevated on the paralyzed side. Congested face, respiratory difficulties.	Prodromata common. Complete stroke rare. Coma slight or wanting. Temperature usually unchanged.
Course	Pulse slow, full, bounding..... Motor loss usually hemiplegic and fully developed at once General convulsions common.. Rapid improvement in motion. Foot usually gains more rapidly than hand. Anæsthesia usually fleeting.... Persistent aphasia exceptional. Postplegic athetosis, trembling, and chorea common. Postplegic convulsions rare.... Spasmodic weeping and laughter common.	Pale face, no respiratory disturbance. Pulse weak, soft, often frequent. Motor loss often monoplegic and inclined to extend. Limited convulsions common. Slow motor improvement. Extension of paralysis often observed. Foot often gains less than hand. Paræsthesia persists. Persistent aphasia and other cortical symptoms common. Postplegic athetosis, trembling, and chorea uncommon. Postplegic convulsions common. Spasmodic weeping and laughter exceptional.

—ARCHIBALD CHURCH.

PROGNOSIS.—In any case of apoplexy due to hemorrhage into the hemisphere, if renal disease, Cheyne-Stokes respiration, or hyperpyrexia, either or all of them, or two of them, are present, the patient will almost certainly die.—BARR.

Recovery is probable if none of the above signs occur.

Grave associated disease, diabetes, chronic alcoholism, etc., render prognosis unfavorable.

TREATMENT.—Headache, vertigo, or a sense of fulness in the head, one-side numbness, etc., especially in an instance in which there is atheroma of the vessels or when there is high arterial tension without atheroma, are symptoms which often

exist for a week before the apoplectic attack; these prodromal symptoms are often overlooked and in many cases ignored. Rest, vascular sedatives, nitro-glycerin, large enemata, will often modify the circulation and thus tend to avert the rupture of the artery.

If it be possible, the patient should be laid down on a sofa or mattress in the room where the attack occurs, and no attempt at movement be made for twelve or twenty-four hours. It is better to elevate the head slightly by pillows, since this probably tends to modify the force of the heart's action in the cerebral vessels, and at the same time allows respiration to be carried on rather better than when the patient is perfectly flat.

In regard to drugs in this early stage, there are practically no therapeutic indications that can be successfully met.

In regard to the custom of administering croton oil or some drastic purge during the early stage, although sanctioned by almost immemorial usage, it is not only useless, but exposes the patient to the risk of making dangerous exertions, besides putting him in a filthy condition. The same objections in part apply to blistering and to the use of mustard. It is important to attend to the bladder and draw off the urine at regular intervals. The throat should be kept as free from mucus as possible.—PRESTON.

Free purgation should be resorted to early. In paralysis due to hemorrhage, venesection is often indicated, while in embolism or thrombosis it will, as a general rule, be a mistake to bleed.

Depletion is indicated only when arterial tension is high.—HILL.

Caution.—Before depletion be sure of the diagnosis, since in thrombosis, embolism, and acute cerebral anæmia a loss of blood will do harm.—GOWERS.

℞ Ergotinin..... 0.05 cgm.
 Lactic acid 10 cgm.
 Aseptic vehicleto make 100 cc.

M. S. Inject a syringeful, equal to one-half milligram of ergotinin.

—HUCHARD.

If after bleeding and purgation the pulse continues bounding, tincture of aconite or tincture of veratrum viride, gtt. i., every half-hour until the pulse is influenced.—TYSON.

To produce free purgation, a drop of croton oil should be placed upon the tongue. Or—

℞ Ext. colocynth. comp..... gr. xx.
 Olei tigllii..... ℥ ij.
 Ft. pil. No. iv. S. One as required.

Blistering, if done at all, should be on the shaven scalp, over the top of the head between the ears.

When the pulse is hard and tense, amyl nitrite, or, better, venesection.

Place the patient on a water bed. Apply heat.

Caution.—Supervise carefully the application of hot-water bottles, to prevent deep burning of tissues.

Use the catheter when necessary.

In coma, nutrient enemata, especially after the bowels are cleaned out.

In threatened asphyxia, oxygen.

In the stage of secondary cerebral inflammation, with quick feeble or quick intermittent pulse, digitalis, strophanthus, strychnine.

When acute changes have subsided (six weeks to two months) systematic voluntary movements, massage, electricity.
 —BYROM BRAMWELL.

In resulting cerebral softening or in threatening softening of the brain, phosphorus is the only drug which affects the nerve centres. (See “Embolism” and “Thrombosis.”)—WOOD.”

Above all things, stimulants are contraindicated during the

acute attack, even though the pulse fails, as they increase the hemorrhage into the brain.—HARE."

R Tinct. aconiti..... ℥ x.

Aquæ cinnamomi.....q.s. ad ʒ ij.

M. S. A teaspoonful every quarter of an hour for two hours, then every half-hour.

—POTTER."

In seizures without succeeding hemiplegia, regulate the circulation, dilate the vessels by nitroglycerin, enforce perfect quiet, employ laxatives, cold applications to the head, and iodide of potassium, just as in other instances. Too great care cannot be taken to prevent hasty return to ordinary occupations.—M. ALLEN STARR.

Appendicitis.

When called to a suddenly occurring attack of general abdominal pain attended with or soon followed by vomiting and fever (usually), constipation or perhaps diarrhœa, the pain becoming localized in the right side of the lower abdomen, or right iliac fossa, appendicitis will almost invariably come into the physician's mind as a possible cause of the colic.

DIAGNOSIS.—An accurate and timely diagnosis is of the utmost importance. The history of previous attacks will aid; likewise a family history of appendicitis, for, strange as it may seem, a marked tendency to "run in families" is noted, and especially in those in which gout, rheumatism, biliary lithiasis, and obesity are prevalent.

Always examine per rectum. An abscess may burrow downward and point behind this part of the gut, while the apex of a long appendix or one situated behind the cæcum may reach far down toward the brim of the pelvis. A point of diagnostic significance is the reflex spasm which will take place in the abdominal muscles of the right side when the hand is passed gently over the surface, from the left.

Upon firm deep pressure the appendix may be palpated, and, if a mass of intestines caked with plastic lymph is already present, the tumor will be distinctly felt. The focus of greatest pain lies midway in a line drawn from the anterior superior spine of the ilium to the umbilicus (McBurney's point), and is an almost pathognomonic sign of appendicular inflammation in male subjects. The pain may, however, be peri-umbilical at first, or even in the epigastrium, or on the left side.

Appendicitis may suddenly attack an individual who seems to be enjoying perfect health, and when an epidemic, as it were, of such instances occurs within a circumscribed area, we must suspect an infectious form bearing certain analogies to dysentery, as Golouboff has pointed out.

Very light forms probably pass without absolute diagnosis, pain being referred to the epigastric or to the umbilical region, and, being attended with vomiting, constipation, anorexia, the attack may pass for one of gastric derangement. Careful exploration of the right iliac fossa will, however, show the tenderness to be in reality localized, and often the tumefied appendix may be itself palpated. Some attacks in young persons may suggest an analogy to rheumatic tonsillitis.

The patient may be suddenly seized *with colic and pain* in the region of the cæcum. Perhaps there is a rigor, and the temperature runs up to 102° or 103° , or more. Within two or three days the temperature drops, and the patient is well, save perhaps for a little thickening of the appendix, that slowly or rapidly subsides.—JAMES F. GOODHART.

Pressure deep enough to disclose distinctly the posterior abdominal wall, the pelvic brim, and the structures between them and the examining finger, forms the whole secret of success in the practice of palpation of the vermiform appendix.—EDEBOHLS.

Determine accurately the length, breadth, position, and condition of the appendix in the interval of attack by deep pal-

pation before expressing an opinion upon which the patient will depend.—R. T. MORRIS.

DIFFERENTIATION is to be made from tumors in this region, fibro-myoma not connected with the genital organs, muscular abscess, affections of the liver, gall-bladder, or biliary canals, all of which may present the signs of perityphlitis or inflammation of the appendix, also from movable kidney and typhoid fever.

Occlusion of the small intestine by a biliary calculus has more than once been found at the operation or autopsy when the diagnosis of appendicitis had been made. Jaundice may occur in appendicitis.

Perimetritis is not infrequently diagnosticated when appendicitis is in reality present and *vice versa*, and when they coexist the latter may be overlooked.

Infants may have tuberculosis of the appendix, and Karewski has reported actinomycosis of the organ.

In all instances of abdominal pain in infants with constipation or diarrhoea the examination for appendicitis should be carried out, including, for the doubtful cases, exploration per rectum.

The diagnosis of appendicitis in the female is attended with peculiar difficulties bearing on the differentiation of symptoms associated with tubal and ovarian disease. Coe, Grandin, and others have shown that the painful point and tumor are below the situation of the region of the appendix; the swelling is rounder, nearer the uterus, and more circumscribed, and its connection can usually be traced to the tube or ovary by rectal or vaginal palpation. When, however, the latter cannot be done, the absolute diagnosis is often left in doubt. Usually, however, the previous history of menstrual troubles, the chronic character of the case, and the absence of the recognized symptoms of recurrent appendicitis will help to a conclusion.—GEORGE F. SHRADY.

From acute catarrhal salpingitis by the pains being more

violent, more strictly localized, not radiating toward the thigh, and by persisting and increasing in intensity instead of remitting toward the third or fourth day, as in salpingitis.

If diagnosis is not otherwise possible, examine in narcosis.—VINEBERG.

Board belly is the principal differential sign between acute appendicitis and salpingitis.

In adhesion of the appendix with the uterus or with the ovary, differential diagnosis becomes more difficult. If abscess is due to salpingitis, the pus may show presence of gonococci. The history is very essential in differentiation from diseased adnexa.

Entero-colitis as well as influenza may cause tenderness in the vicinity of the appendix, but a study of the concomitant symptoms should suffice for purposes of differentiation.

A tumor behind the uterus on the right side, resulting from tubal pregnancy, has been mistaken for a thickened appendix by a number of surgeons of distinction.—WILLIAM T. LUSK.

In differentiation of perityphlitis or appendicitis from tumor, insufflate the rectum. If there is a tumor present, the stiffened wall cannot be distended. If it be an exudation, distention is distinctly made out.—SONNENBURG.

Tuberculous peritonitis in and about the cæcum with masses of adhesions, producing tumor and obstruction, may simulate appendicitis. The previous existence of the condition may not be known to the patient or it may occur in infancy. True tuberculous appendicitis has been described.

Empyema of the gall bladder in an acute form causes symptoms of obstruction and colic, and in the absence of jaundice may be mistaken for appendicular abscess.—ANDREWS.

In hysterical subjects neuropathic complications may make doubtful the reality of the appendicular lesion.

Perforation by gastric ulcer, of which there has been no previous history, may occasion a suspicion of appendicitis, by the low temperature and pulse of perhaps 140.

An attack may so closely simulate gall stones or renal colic as to be indistinguishable from them.

Acute intestinal catarrh may also be simulated. If the appendix is displaced so that on palpation it is not found, an inflammation involving it may be overlooked. Pain and tenderness of sudden onset, and particularly localized, should all be taken into consideration in arriving at a diagnosis. Instead of being referred to McBurney's point, the pain may be complained of in the sigmoid, hepatic, or epigastric region.

Undescended and inflamed testicle on the right side as well as torsion of the ureter in connection with movable right kidney may be sources of error.

Rigidity of the right rectus muscle should be a decided aid. A distinction must be made in neurotic subjects from the rigidity due to hypersensitiveness.

PROGNOSIS.—The chief cause of death is delay in one direction or another.

The prognosis is worse in operation during than after an attack.

After the second attack a third is almost sure to follow.

Each succeeding attack renders operation more difficult and dangerous.

If in five or six hours there is no increase in urgency the patient is not in immediate danger, if kept at perfect rest in bed; if in twelve hours there is still no increase in the severity of the symptoms, the patient should soon begin to improve.—**McBURNAY.**

In pronounced generalized septic peritonitis the prognosis is as bad as it can well be.

Mortality is not so large as usually assumed—8.9 per cent of all cases and only 2.5 per cent of circumscribed cases die.

TREATMENT.—Dieulafoy was in error when he uttered those almost tragic words, "There is no medical treatment of appendicitis."

Everything depends upon the diagnosis. Were we able to predict from the start which cases would be mild in course and to say definitely which are of rheumatic origin, drug treatment would cure in many instances. As Morris says, however, we are dealing with a percussion cap which may simply snap or flash or result in an explosion, and in which way it is going to go off no man can tell.

Every patient must have the benefit of prompt and properly directed medical aid from the start. Perfect rest, exclusive fluid diet, an enema to empty the lower bowel, morphine in moderation to quiet intestinal movement, and, if rheumatoid origin is at all suspected, salicylic acid in full dose appropriate to the age.

Externally the cold-water coil or ice bag.

If all goes well, the pulse rate does not run high and stay high, in spite of perhaps a falling temperature. We may treat symptomatically and advise operation any time after the attack is at an end. If pulse, fever, or both remain high after twenty-four hours, the surgeon is to be called.

An appendix once diseased is always an element of danger, and subsequent attacks may not terminate so favorably as did the first.

If perforation has taken place and diffuse peritonitis exists, operation should not be delayed. Operation is called for in abscess formation. If the appendix is readily found, it may be resected. In infants and badly conditioned subjects it should not be sought for too deeply among adhesions nor for too long a time.

In peritonitis, median laparotomy with saline washing, **resection** of the appendix (if found), and drainage.

Operate before the entire system is involved in a toxæmia and the general peritoneal cavity is implicated.

The pulse is unreliable and temperature is fallacious in deciding upon operation.—MORRIS.

If adhesions and plastic lymph are setting up a protective barrier to the forming pus, respect their efforts; and if symptoms are favorable wait before incising the abscess cavity.

If seen early, absolute rest, fomentations, salines every half-hour until four or six fluid stools are produced.—JONAS.

Adhere to medical treatment when that is adequate to the emergency. Experience has shown that immediate intervention gives no better results in diffuse peritonitis than if delayed for a few days, and that in local suppuration the time of election for operation is not during the acute symptoms, but between the twelfth and fifteenth days.—TALAMON.

It is not unreasonable to suppose that catarrhal appendicitis can be relieved without an operation as well as catarrhal salpingitis.

R Sodii salicylatis 3 iij.

Ft. chart. No. xij. S. One every two hours.

—LESSER.

Caution.—Avoid opium, since it obscures the diagnosis and does actual harm.

In children do not operate when there is generalized peritonitis. Even when peritonitis is circumscribed but complicated, put off operation.—RENVERS.

The results of purely medical treatment are not sufficiently bad and those of surgical treatment not sufficiently satisfactory to justify operative intervention in all cases.—FÜRBRINGER.

The opium treatment relieves pain and discomfort, but entirely masks the symptoms at a most important time, for it is in the first twenty-four hours from the beginning of the attack that we can decide not only as to the diagnosis, but as to the probable course and result of the case.—MCBURNEY.

For the vomiting :

R̄ Menthol.....	gr. viij.
Cognac	℥ iss.
Laudanum	3 v.

M. S. Take from ten to twenty drops several times a day, in a little sweetened water.

—PICK.

If at the end of twenty-four or thirty-six hours the patient is not improving, advise operation.—G. E. ARMSTRONG.

The near future will demonstrate that treatment belongs to the field of medicine and not to surgery. Of one hundred cases properly treated from the earliest manifestation of the disease by rest in the recumbent posture, abstinence from all food and drink except ice for first twenty-four hours, opium sufficient to relieve pain and give rest to the bowels by quieting peristalsis, emptying the bowel by large enemas, and the application to the abdomen of leeches and hot poultices, ninety cases will end in recovery without the intervention of surgery.—E. H. RICHARDSON.

In fulminating cases, early operation.

In those of moderate severity, wait until the height of the attack is passed.—RECLUS.

Remove the appendix even in mild cases that begin “stormily,” particularly if there is any chronic tendency.—ROTTER.

Under liquid diet, opium, and complete rest, forty-five patients recovered out of forty-six treated.—HOOD.”

As a rule, the appendix should be removed if the diagnosis is made in the first hours of the attack, or later, if the symptoms are severe and especially if they are increasing in severity; or if after marked improvement the symptoms recur, or if though moderate they do not improve. The appendix should not be removed in localized abscess with firm walls.—M. H. RICHARDSON.”

Arterio-Sclerosis.

Atheromatous inflammation of the blood-vessels, particularly of the arteries, is readily recognized when those in the region of the temples especially are tortuous, dilated, and have a pulsating appearance.

DIAGNOSIS.—Vertigo is a frequent symptom, especially on awakening with dull diffuse headache. Chest constriction may follow slight effort and be attended with cold perspiration of the face and weakness of the limbs. It is a condition chiefly of advanced years, but general arterio-sclerosis is seen also in middle life. In the wrist, popliteal space, and other situations in which the vessels are superficial, they are found firm and hard to the touch and are compressed only by the exertion of some force.

Hypertrophy of the left ventricle is usually an accompaniment, and signs of chronic heart disease with dilatation are not unusual. The Roentgen rays may be utilized to detect calcareous deposits in the course of suspected vessels.

DIFFERENTIATION from simple increase of vascular tension alone.

Attacks of vertigo, with pallor of countenance producing grave apprehension, are to be differentiated from mild cerebral apoplexy and from various digestive disorders.

In diffuse arterio-sclerosis there is high arterial pressure, but not in senile endarteritis pure and simple.—COUNCILMAN.

PROGNOSIS.—Muscular weakness and tottering gait may be a result, and in very old subjects gangrene of the lower extremities. Apoplexy is a frequent consequence or death may result from heart implication.

TREATMENT.—Treat such causes as may be discovered in gout, syphilis, rheumatism, lead poisoning, etc. Iodide of potassium is a drug of value, even in instances of non-specific cause.

Diet, rest, avoidance of excitement, tepid baths.

For the vertigo :

℞ Ergotini..... 0.10 gm.
 Ext. physostigmatis 0.02 gm.
 Ext. gentianæ q.s.

S. For one pill. One to twenty such daily, according to patient's tolerance.

For the vertigo with sensation of impending death, if the frontal artery be found tortuous or there are present *arcus senilis*, a clanging heart sound, increased pulse tension, scanty urine, and a possible trace of albumin:

℞ Potassii iodidi gr. xxx.-xc.
 Daily for months together.

—CHURCH.

℞ Sodii iodidi..... 3 ij.
 Aquæ destil..... 3 viij.

M. S. One or two teaspoonfuls three times a day; out-of-door exercise; a quiet life, avoidance of tobacco, alcohol, and a too exclusively meat diet.

The sodium iodide may be continued for years.

—GOARCON.

℞ Sodii nitritis gr. v.-x.
 Three times daily.

—HAY.

In weak heart in elderly subjects, associated with pain, arsenic is indicated.—BALFOUR.

In distressing palpitation with cardiac weakness:

℞ Chloral hydrate,
 Sodium bromideãã 4 gm.
 Codeine 0.1 cgm.
 Water,
 Syrup of orange peel.....ãã 45 gm.

M. S. A dessertspoonful every two hours till the heart is quieted.

Caution.—In aortic regurgitation due to arterial sclerosis digitalis may produce ill effects.—HANDFORD.

℞ Potassii iodidi..... gr. v.
 Hydrargri chloridi corrosivi..... gr. $\frac{1}{10}$ - $\frac{1}{15}$.

To be continued for a long time.

—TYSON.'

℞ Spiritus glonoini..... gtt. xxx.
 Aquæ destillatæ..... $\frac{3}{4}$ x.

M. S. From three to six dessertspoonfuls during the twenty-four hours.

To increase elimination of calculi-forming salts, especially in the cardiac complications, watery solution of sodium bicarbonate to which sufficient lactic acid is added to neutralize.

℞ Sodium bicarbonate..... 10 gm.

Neutralize with :

Lactic acid..... q.s.

Then add :

Lactic acid,

Syrup.....āā 10 gm.

Distilled water..... 180 gm.

M. To be taken in the twenty-four hours.

—RUMPF.

Arthritis, Gonorrhœal.

The term gonorrhœal rheumatism has been applied to a complexity of symptoms including inflammatory involvement of the eye as well as of tendons, fasciæ, and other tissues; the joints are, however, the parts most particularly implicated and more especially the larger ones, often one only at a time. The knee and ankle are the joints most commonly affected.

DIAGNOSIS depends largely upon the above fact, the history of present or preceding gonococcic infection, and the absence of family and personal history of rheumatism proper.

DIFFERENTIATION.—From rheumatic fever, by the absence of sweating, the mild general reaction, the less inflammatory nature of the swelling about the joint in many instances, and the greater amount of hydrarthrosis. If iritis or conjunctivitis is coincidently present, the suspicion of gonorrhœa as a cause is strengthened. Likewise, involvement of parts around the joint

in an obstinate chronic process, which does not give way to antirheumatic remedies, should arouse suspicion and lead to investigation of the urine. It does not as a rule tend to affect the heart, although cases of gonorrhœal endocarditis do occur, nor does it tend to shift so rapidly from joint to joint.

Gonorrhœal rheumatism is peculiar in attacking certain joints which are rarely involved in acute rheumatism—as the sterno-clavicular, the intervertebral, temporo-maxillary, and the sacro-iliac.—OSLER.

PROGNOSIS.—Recovery in six weeks is to be regarded as a favorable termination. If the diagnosis is not made early and appropriate means are not employed, a protracted course is to be expected.

It is liable to recur and is an affection of extraordinary obstinacy.—OSLER.

TREATMENT.—*In the beginning :*

Ext. jaborandi fld..... 3 ss.

For a dose. Repeat every half-hour for four doses.

—HEATON.

In plethoric subjects, temporary ease may be obtained by the use of leeches; or flaxseed poultice with laudanum.—R. W. TAYLOR.

For acute synovitis, repeated applications of large blisters at a little distance from the affected joint. Thermo-cautery to allay pain and reduce swelling.

In chronic, wash well with hot water and soap until the skin is reddened. Apply flannel soaked in tincture of capsicum so as to cover the whole joint, extending well above and below. Over this apply oiled silk with a firm bandage for half an hour each night.—JONATHAN HUTCHINSON.

Baths, to which is added, according to the susceptibility of the patient, a greater or smaller amount of the following:

℞ Tinct. saponis mollis	200
Spt. terebinthinæ.....	100

—BALZER.

Natural mineral baths, such as those of Mount Clemens.

In hydrarthrosis, not relieved by blistering, the fluid may be drawn off and the joint irrigated.

Mild massage may bring rapid improvement, in cases which have proven refractory to other methods.

In the acute stage, cotton soaked in absolute alcohol and applied to the joint by means of a bandage gives great relief.

Perfect rest of body and limb is a first essential.

Apply locally :

℞ Ichthyoli.....	3 ij.-iv.
Ung. belladonnæ	℥ ss.
Lanolin.....	3 ij.
Adipis.....	℥ i.

M. S. After rubbing in, apply a flannel bandage.

Or, if great pain :

℞ Guaiacol,	
Glycerin.....	.āā ℥ ss.

M. S. Apply with camel's-hair pencil and cover with protective.

Treat the blennorrhagic inflammation by local rather than by general methods.

First of all treat the urethra and other possible foci of infection.

In acute, rest, fixation of the joints by splints, blisters, thermo-cautery.—WOOD AND FITZ.

In subacute urethritis, deep urethral and bladder irrigation with nitrate-of-silver solutions.

In chronic, general hygienic measures. Tonic medication, massage, baths, passive motion.

Potassium iodide is sometimes of service.

As a last resort, surgical intervention; opening the joint.

Arthritis, Rheumatoid.

Arthritis deformans, osteo-arthritis deformans, progressive polyarthritis deformans, nodular rheumatism, or, as it is often called, rheumatic gout, is to be differentiated from both the affections whose names go to form the latter hybrid designation.

DIAGNOSIS.—There are pain in the joints and atrophy of muscles connected with them, while the bony structures become enlarged and distorted.

It is a progressive polyarthritic form of chronic rheumatism.—BÄUMLER.

DIFFERENTIATION.—Rheumatism is simulated in the early stages before deformities occur, when the type is chronic from the first. When, as is usually the case, it is subacute from the onset, it is distinguished from gout by the absence of the characteristic acute paroxysms of the latter. It differs from acute articular rheumatism by being a disease of general nutrition, in part inflammatory, but also in part degenerative.

There is also anæmia of pseudo-chlorotic type.

In chronic arthritis the process is limited to the synovial membrane and peri-articular connective tissue, whereas in arthritis deformans the process advances to the cartilage and bone.—STRÜMPPELL.

Heberden's nodes indicate rheumatoid arthritis rather than gout.—RIESMAN.

In chronic rheumatism there may be connective-tissue ankylosis, a condition which is never seen in arthritis deformans.—VON LEUBE.

Arthritis deformans is most frequently seen in individuals between thirty and forty years of age. It may, however, be seen in children of from ten to fifteen years, and Koplik " has reported its occurrence in a child of seven.

Anatomical lesions may be differentiated from those of gout, and other affections may be excluded by *x*-ray examination.

PROGNOSIS.—Hopeless deformity and often helplessness result from the chronic progressive rheumatism. Early recognition of the condition permits institution of means to prevent impairment of function.

TREATMENT.—General hygienic measures, massage, hot-air baths, change of climate, flannel next the skin, careful diet.

Iodides, especially in combination with arsenic, do good.

Prevent contracture of the affected joint by extension apparatus. Strontium bromide influences the pain and may have a power to limit the progress of the disease.—RIESMAN."

Cod-liver oil, arsenic, and iron.

In the early stages, carbonate of guaiacol.—HINGSTON SMITH.

Absolute rest.—GIBNEY.

℞ Creasotol ℥ v.-xx.

Or—

℞ Benzosol gr. iv.

Or, preferably—

℞ Guaiacol carbonate..... gr. v.-xv.

Externally guaiacol and olive oil, equal parts.—BANNATYNE.

Oil of cloves best masks the odor.—DA COSTA.

When there are excessive pain and irritability, baths at 92° to 94° of ten to twenty minutes' duration, through which the galvanic constant current is passed. The alternating current may also be used.—STEAVENSON.

Piperazin water with phenocol to combat irritating pains.

℞ Sodii bicarbonatis 30-40 gm.

As daily dose for weeks together, usually combined with quinine.

—CHARCOT.

Between the acute painful attacks, iodides, arsenic. Or the latter alternating with—

℞ Tinct. iodi..... gtt. iv.-x.

Syr. aurantii..... ʒ i.

At dose.

Or arsenical baths :

℞ Sodii arseniatis..... 1-8 gm.
 Sodii bicarbonatis..... 100-150 gm.
 For each bath.

Hot-air baths (as described under chronic rheumatism).

This is the most valuable of all treatment.—JAMES STEWART.

In old cases :

℞ Acidi lactici..... gtt. x.

Given when the stomach is empty and allowing no food for an hour and a half afterward. Gradually increase to forty drops daily.

—ZOLOTAVINE.

Plaster-of-Paris cast, massage; make persistent effort before pronouncing any given case hopeless.

Ascaris Lumbricoides.

The presence in the intestine of the round worm, which resembles in a measure the common earthworm, occasions symptoms of bowel irritation.

DIAGNOSIS.—There are disordered digestion with colic, alternating diarrhoea and constipation, coated tongue, and fetid breath. Nervous symptoms often bring into question such severe disorders as chorea, epilepsy, and insanity, while convulsions are now and then observed. It would seem that the adult worm is alone affected by remedies, since young ones, it is said, are never observed in the discharges. The colic, according to De la Fuente, is characteristic by reason of its suddenness, it seizing the child in the midst of play, by its early severity, and by its being confined to a limited area, the rest of the abdomen being free from pain on palpation. There is also bilateral narrowing of the visual field.

Occasionally we observe dilatation of the pupils, itching of the nose, salivation, vomiting, and migraine.—STRÜMPPELL.

DIFFERENTIATION.—From grave nerve disease by the prompt disappearance of symptoms under proper treatment.

In young adults symptoms of typhoid fever have been closely simulated (Chauffard). The tongue is foul rather than red, and without tremor; the breath gives an odor more of putrefaction; there are no rosy spots, and the fever yields to appropriate drugs.

PROGNOSIS.—Good. An instance has been related by Mitra¹⁰ of fatal diarrhoea, during the course of which one hundred and eleven round worms were passed.

TREATMENT.—Quite as important as the administration of anthelmintics is the regulation of the quantity and quality of food according to the child's age. Getting rid of the offending parasites will be followed by but slight improvement unless proper treatment, including dietetics, accompanies the drug medication.

Anthelmintic for children :

℞ Benzonaphtholi..... 2 gm.
 Santonicæ..... 1 "
 Sacch. albi..... 5 "

M. ft. pulv. div. in chart. No. xx. S. Three to five powders daily.

Or for a child of three to five years:

℞ Santonini..... gr. iij.
 Hydrargyri chloridi mitis..... gr. iij.
 Sacch. albi..... q.s.

M. ft. chart. div. No. ij. One night and morning.

—S. M. WARD.

Or—

℞ Santonini 0.2
 Olei ricini 70.

M. S. Teaspoonful every two hours.

—WIEDERHOFER.

Caution.—Great abdominal tenderness, especially in the right iliac region, rapid breathing, abundant golden yellow urine followed by suppression, salivation, progressive rise of temperature, feeble pulse, jaundice, and prolonged stupor are symptoms of poisoning which may prove fatal.—J. S. TAYLOR.¹¹

℞ Ext. spigeliæ fld.....	3 x.
Ext. sennæ fld.....	3 vi.
Olei anisi.....	℥ v.
Olei cari.....	℥ v.

M. S. For a child of two years half a teaspoonful two or three times daily ; for a child of from four to ten years a teaspoonful.

—C. W. TOWNSEND.

℞ Naphthol.....	15 cgm.
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For one wafer. S. One three times daily.

—DUBOIS.

℞ Hydrargyri chloridi mitis.....	gr. ij.
Santonini	gr. iss.
Sacchari lactis.....	gr. xv.

M. S. One dose in one drachm of honey ; for a child of two years.

—BOUCHUT.

℞ Olei chenopodii	gtt. lx. - 3 i.
Mucilag. acaciæ	3 ij.
Syr. simplicis ...	3 i.
Aquæ cinnamomi.....	3 ij.

M. S. Give a teaspoonful three times a day for three days, and repeat after several days.

—MEIGS AND PEPPER.

℞ Spigeliæ,	
Sennæ	āā 3 ss.
Magnesii sulphatis.....	3 ij.
Foeniculi	3 i.
Aquæ ferventis.....	O i.

M. Macerate for two hours in a covered vessel. Dose, a tablespoonful for a child two years old, once or twice daily, or every other day, so as to procure two or three evacuations in the twenty-four hours.

—G. B. WOOD.

℞ Ext. spigeliæ.....	3 i.
Ext. sennæ.....	3 ss.

M. S. Teaspoonful for a child of from three to five years.

Santonin in grain dose may be added to the above.

—J. LEWIS SMITH.

℞ Santonin	gr. xx.
Podophyllin.....	gr. v.
Sugar.....	gr. xxx.

M. S. Divide into five powders ; give one every four hours until it acts freely on the bowels. The dose of podophyllin can be varied according to the age of the child.

—DERAY.

Turpentine emulsion :

℞ Oil of turpentine,	
White of egg	āā 3 ij.
Glycerin,	
Syrup,	
Water	āā 3 iv.

Mix the white of egg and glycerin together, add the oil of turpentine, and shake thoroughly; then add the syrup and lastly the water, shaking them well together. A teaspoonful will contain about eight minims of turpentine.

℞ Olei chenopodii.....	3 i.
Olei terebinthinæ rectificati.....	3 ij.
Emulsionis olei ricini (50 per cent).....	q.s. ad 3 ij.

M. S. Teaspoonful twice daily.

—POWELL.

Or—

℞ Ext. filicis maris æth.....	4
Hydrarg. chloridi mitis	0.4
Aquæ destillatæ,	
Sacchari albi.....	āā 15
Gelatin.....	q.s.

M. S. At a dose.

Or—

℞ Ext. filicis maris æth.,	
Tinct. vanillæ.....	āā 3
Olei terebinthinæ	4
Aquæ destillatæ.....	25
Gum. arabici pulv.....	2

M. S. One dose, to be taken in milk.

Ascaris Vermicularis.

The oxyuris vermicularis, threadworm or pinworm, indicates its presence in the lower segment of the rectum by a recurrent itching, usually nocturnal. If this leads to an examination, one or more thread-like, actively wriggling, white worms are usually disclosed. The male is about five millimetres and the female about twenty millimetres in length. The diameter corresponds to about No. 24 thread. Occasionally

convulsions may be caused by the intense irritation set up, especially when these pinworms are numerous, and even in the adult treatment will often be demanded.

In girls the worms may enter the vagina, give rise to intense itching, and thus lead to masturbation.—STRÜMPPELL.

TREATMENT.—All milk and water given should be boiled, and meats well cooked.

Frequent purgation; enemata of cold or warm water; cleanliness.—SANSOM.

R̄ Santonin gr. $\frac{1}{4}$.
Calomel gr. iss.

M. One such cachet to be taken before breakfast every day for three days.

Also, every evening for the same number of days, a little of the following ointment should be inserted within the anus:

R̄ Glycerite of starch 2 parts.
Mercurial ointment 1 part.

M.

R̄ Tanaceti 2 gm.

Make an infusion with :

Water 200 "

Add :

Glycerin 20 "

Inject after evacuating the bowels.

R̄ Asafœtida 8 gm.

Yellow of one egg.

Water 150 "

R̄ Mentholi 0.25 cgm.

Olei olivæ 60 gm.

R̄ Ætheris gtt. xx.

Glycerini 30 gm.

Aquæ 150 gm.

To inject after an evacuating enema.

—COMBY.

℞ Salt..... ʒ ss.
Water O i.

℞ Vinegar..... ʒ i.
Water O i.

M. S. Inject once daily until there are no further signs of worms, then gradually decrease.

℞ Tinct. eucalypti 5
Tinct. myrrhæ..... 2
Sodii biborat..... 8
Aquæ 500

S. As an injection.

Or, turpentine in emulsion.—G. T. MONROE.

Enemata fail because the habitat is not the rectum alone but the whole large intestine.

Ankylostoma Duodenale in Infants :

℞ Extr. filicis maris 2
Ol. ricini..... 10–15
Syr. menth..... 80

To be taken in two doses.

In obstinate cases, injections through a long flexible tube.

℞ Santonini pulv..... ʒ i.
Resinæ jalapæ gr. ij.
Cocœ ʒ i.

M. et div. in troch. No. xx. S. One in the morning on an empty stomach for an infant of two years ; two or three for older children.

—GUICHON.

℞ Tinct. rhei..... gtt. xx.
Magnesii carbonatis..... gr. ij.
Tinct. zingiberis..... gtt. i.
Aquæ ʒ ij.

M. S. This is to be given three or four times daily, according to the effect produced upon the bowel.

—SIDNEY MARTIN.

Or—

℞ Benzonaphthol,
Santonicæ..... ʒ gr. xxx.
Sacch. albi..... ʒ ij.

M. S. Div. in chart. No. xx. Two to five powders daily.

℞ Acidi carbolici..... gtt. x.-xx.
 Glycerini..... $\frac{3}{4}$ i.
 Potassii chloratisad saturandum.
 Aquæ $\frac{3}{4}$ viij.

M. S. Use as an enema.

—W. H. VAN BUREN.

℞ Acidi carbolici gr. xx.
 Aquæ O i.

Or, infusion of quassia or solution of quinine (1-5,000).

Enemata of lime water or boric acid or bichloride (1-10,000).

Santonin every second night for a week. Exercise and general diet.—NICHOLSON.

To relieve itching, unguentum hydrargyri.—STRÜMPPELL.

Or, unguentum belladonnæ.—OSLER.

Ascites.

Though a symptom, abdominal dropsy producing a uniform rounded fulness must be at times carefully differentiated from other conditions.

DIAGNOSIS.—Inspection shows only the fulness, glistening skin, perhaps enlarged veins and striæ, prominent or protruding umbilicus, and dilatation of any hernial sac that may be present.

Œdema elsewhere is suggestive.

Breathing and heart action are interfered with.

Palpation gives a distinct "wave" between the hands.

Percussion shows dulness over the fluid and a tympanitic note over the intestinal area, which changes with alteration in the patient's position.

Tyson" has recently directed attention to the fact that, while the absence of tympany in the flanks is generally thought to be characteristic of ascites, many instances show it to be present.

Bimanual palpation may show early accumulation in the pelvis. As the latter is raised the fluid recedes and the hands come more together.

If the intestinal canal be free from fæcal contents, the region of the cæcum and the descending colon will emit a tympanitic sound on percussion, even though the adjacent regions are occupied by dropsical fluid.—H. M. LYMAN.

DIFFERENTIATION is to be made from tympanites by the percussion note and wave impulse in ascites.

From pregnancy, by deep palpation and vaginal examination. The uterus may appear to float until change of position disperses the fluid.

From distended bladder by the use of the catheter. From ovarian and other abdominal tumor by irregular enlargement, by vaginal and rectal exploration, and by the fact, dwelt upon by Niemeyer," that in the area between the crest of the ilium and the last rib no tympanitic sound from the large intestine is elicited in ascites, while in ovarian tumor percussion usually gives full resonance.

<i>Ascites.</i>	<i>Ovarian Cyst.</i>
Expansion more marked laterally.	More marked longitudinally.
Fulness uniform.	Greater on one side than on the other.
Umbilicus protruding at times.	Never.
Palpation gives fluctuation beyond border of dulness.	Fluctuation limited to dull area.
Upper border of dulness concave.	Straight or slightly convex.

PROGNOSIS depends upon the producing cause and possibility of removal.

TREATMENT.—Attention to the underlying condition, general tonic treatment, diet, excluding fluids to a large extent. Dry heat.

℞ Triturationis elaterii gr. $\frac{1}{4}$.
Frequently repeated.

Or—

℞ Potassii bicarbonatis $\frac{3}{4}$ ss.
Mellis $\frac{3}{4}$ i.

M. S. Teaspoonful at frequent intervals.

Or—

℞ Pulv. jalapæ comp. 3 ℥—3 ij.
Given in the morning.

Or—

℞ Hydrargyri chlor. mitis gr. v.
Pulv. jalapæ comp 3 ss.
Given in the morning.

To give prompt relief from pressure symptoms, tapping.
(See Surgery.)

Tap either at the sides or midway between the pubes and umbilicus.

Caution.—See that the bladder is empty if the latter procedure is adopted.

When associated with general dropsy:

℞ Ext. sennæ. 3 ℥.
Magnesii sulphatis. 3 ℥.
Given in water every second day.

Or—

℞ Hydrargyri chloridi mitis,
Pulv. digitalis,
Pulv. scillæ. ʒss gr. i.
For one pill. Three such daily.

—CARPENTER.

Or—

℞ Hydrar. chlor. corrosiv. gr. ʒ.
Pulv. digitalis,
Pulv. scillæ. ʒss gr. i.
S. One such pill three times a day.

When diuretics do not act:

℞ Strychninæ sulphatis. gr. ʒ.
Ferri citratis. gr. iij.
For one pill. To be repeated three times a day.

—N. S. DAVIS.

Caution.—Should not be long continued.

Ascites of cirrhosis :

℞ Strychninæ sulphatis gr. $\frac{1}{10}$
 Pulv. digitalis,
 Pulv. scillæ āā gr. i.
 S. One pill four times a day.

—DELAFIELD.

℞ Hydrargyri chloridi mitis..... gr. iij.
 Pulv. opii..... gr. $\frac{1}{2}$
 S. Repeat three times daily for four days.

In general œdema, vapor baths, alcoholic baths.

℞ Resinæ copaibæ 3 iij.
 Alcoholis 3 v.
 Spt. chloroformi..... 3 i.
 Mucilag. acaciæ 3 ij.
 Aquæ ad 3 xij.
 M. S. Tablespoonful three times daily.

—POTTER.²⁴

Asthma.

Here we have to distinguish between bronchial asthma proper, the dyspnœa accompanying capillary bronchitis, cardiac asthma, spasm of the glottis, and spasm of the diaphragm. In the attack of bronchial asthma accompanying acute or chronic bronchitis there is dyspnœa implicating both lungs, accompanied by an oppression which is at times most distressing, and anxiety which may be called respiratory in contradistinction to the cardiac anxiety of angina pectoris.

DIAGNOSIS.—The attack may come at any time, but especially at night, and after exposure to inclement weather, etc. It may be preceded by headache, vertigo, or drowsiness, and especially by nervous disturbances. There is a tightness across the chest, with pallor and cold perspiration, and a characteristic feature of the breathing is the slight motion of the chest wall

and the difficulty in expelling the air. The patient is forced to sit up, or is inclined to lean out of an open window, or to stand bending over with his weight supported in the struggle for breath. The frequency of respiration is diminished and the inspiration is short. The expiration is prolonged and attended with a characteristic wheezing-sound which can be heard at a distance. Aside from loud sibilant and sonorous râles, the coexisting bronchitis or emphysema gives bronchial râles of more or less moist quality, diffused over the chest. The moist bronchial râles are, however, rarely pronounced during the paroxysm. There is no dulness on percussion.

The attack itself may vary from half an hour to several days, or, especially when chronic bronchitis coexists, dyspnœa may occur nightly, awakening the patient from sleep. As the spasm of the bronchi relaxes and expectoration comes on, gelatinous masses are coughed up, which, if spread out on a glass and held above some dark object, may be seen to contain certain twisted or spiral forms. Under the microscope these are found to be made up of mucin in spiral arrangement (Curschmann spirals), including cells from the bronchi and alveoli, besides epithelium and Charcot-Leyden crystals and eosinophile cells. While these forms may also be found in pneumonia and in fibrinous and capillary bronchitis, they are much more common in asthma.

DIFFERENTIATION.—In cardiac asthma the dyspnœa affects inspiration as well as expiration, and in one of its forms there are cyanosis, passive congestion, œdema of the extremities, and symptoms pointing to the underlying valvular or muscular cardiac lesion. In cardiac dyspnœa, unless œdema of the lungs is present, there is an absence of râles. The expiratory form of dyspnœa excludes spasm of the glottis.

The decreased frequency of respiration already mentioned excludes capillary bronchitis, which is attended with increase in the number of respirations.

In bronchial asthma there is *expiratory* dyspnœa. In cardiac asthma the dyspnœa is mixed.

In œdema and spasm of the glottis, spasm of the laryngeal adductors and paralysis of the crico-arytenoideus posticus, as well as in tracheal and bronchial stenosis, there is *inspiratory* dyspnœa.

In spasm of the glottis the patient's head is inclined backward and the larynx makes wide excursions during the act of breathing.

In bronchitis the typical sounds are moist; in asthma they are dry. Cough is always present in the former, often absent in the latter, and the sputum, if there is any, is not purulent.

In emphysema the respiration is never free; in asthma the overdistention of the lung disappears rapidly and respiration may be perfectly free between the attacks. The intercostal depressions are obliterated in emphysema; in asthma they are exaggerated, especially during inspiratory effort. In asthma the lower border of the lung is normal between the attacks. In emphysema the lungs are always larger.—VON LEUBE.

The differentiation from dyspnœa in cardiac disease is given below :

<i>In heart disease.</i>	<i>In asthma.</i>
The paroxysms are of a few minutes' duration.	The paroxysms may last for hours, or even days.
The dyspnœa is of a gasping, panting kind, rather a breathlessness than a difficulty of breathing.	The breathing is tight, constricted, and difficult.
The respiration is hurried, the movement deep, and the rhythm not changed.	The respiration is often slow, the movements are superficial, and the expiration is prolonged.
The patient feels as if dying.	However difficult the breathing the patient feels there is no danger.
There are commonly no bronchial râles.	The breathing is accompanied by prolonged, sibilant, and musical rhonchi, especially at expiration.
Exertion in tranquil breathing is an adequate immediate cause of a paroxysm.	Exertion alone will not immediately produce a paroxysm in tranquil breathing.

In heart disease.

The paroxysm is not followed by expectoration.

The tendency of emotional excitement is to induce a paroxysm.

No true periodicity.

In asthma.

Each paroxysm, as a rule, passes off with an access of expectoration.

The tendency of emotional excitement is curative; often completely and suddenly.

Periodicity is often well marked.

—GEORGE E. PIKE.

PROGNOSIS.—In the adult, unless the exciting cause can be discovered and remedied, paroxysms are to be anticipated throughout life. Especially is this the case when the family history points to an hereditary predisposition.

The younger the subject, the more favorable the outlook.

Emphysema, chronic bronchitis, with or without hypertrophy of the right ventricle, may be predicted in after-years.

TREATMENT.—The hypodermic administration of a full dose of morphine may cut short an attack. Most subjects find more or less relief in the inhalation of smoke from the burning of saltpetre paper, cigarettes made from the leaves of belladonna, stramonium, or similar herbs. The inhalation of nitrite of amyl, or of chloroform, ether, or pyridin (Germain Sée), may be effective for a time during the attacks. Internally chloral, Hoffman's anodyne, tincture of lobelia, etc., may be given.

Caution.—Alarming collapse may result from chloroform.

Local sources of irritation are first of all to be sought out and removed.

Asthma of reflex origin from nasal disorders must be relieved by curing the cause, whether this be polypus, septal deformities, adenoids, or other like condition.—GREVILLE MACDONALD.

The first importance must be given to the removal of exostoses with the nasal saw and the reduction of turbinated processes by chromic acid fused on an applicator or by other means.—A. K. AMOS.

In the attack :

℞ Morphinæ sulphatis..... gr. $\frac{1}{2}$
 Strychninæ sulphatis..... gr. $\frac{1}{80}$
 Hyoscine hydrobromatis gr. $\frac{1}{160}$
 M. S. Administer by hypodermic injection each night.

℞ Æthereal tincture of lobelia..... $\frac{3}{4}$ ij.
 Tincture of asafoetida..... $\frac{3}{4}$ i.
 Tincture of opium..... $\frac{3}{4}$ ss.
 Potassium iodide..... $\frac{3}{4}$ ij.
 Syrup of tolu....., $\frac{3}{4}$ iv.

M. S. From one to two teaspoonfuls every one or two hours for an adult, according to the severity of the case.

℞ Ammonii bromidi..... $\frac{3}{4}$ vi.
 Ammonii chloridi..... $\frac{3}{4}$ iss.
 Tinct. lobeliæ..... $\frac{3}{4}$ iij.
 Spir. ætheris comp..... $\frac{3}{4}$ i.
 Syr. acaciæ.....ad $\frac{3}{4}$ iv.
 M. S. Dessertspoonful in water every hour or two during paroxysms.

—PEPPER.

For inhalation :

℞ Potassii nitratis..... $\frac{3}{4}$ ss.
 Pulv. anisi fruct..... $\frac{3}{4}$ ss.
 Pulv. stramonii fol..... $\frac{3}{4}$ i.
 S. Use a thimbleful, place on plate, light with match, then inhale fumes.

In *spasmodic asthma* the patient should not only take arsenic but should smoke arsenic cigarettes. The ordinary arsenical cigarette is made by saturating paper with a solution containing fifteen grains of the arsenite of potassium in an ounce of water. The portion of the paper which comes in contact with the lips should not be impregnated, or, better still, a mouthpiece should be used. In addition to smoking these cigarettes the patient should use this fuming inhalation at bedtime:

℞ Powd. anise fruit..... $\frac{3}{4}$ i.
 Powd. fennel fruit $\frac{3}{4}$ ss.
 Powd. sumbul root $\frac{3}{4}$ ij.
 Powd. stramonium leaves..... $\frac{3}{4}$ ij.
 Iodide of potassium $\frac{3}{4}$ i.
 Powd. nitre $\frac{3}{4}$ ij.

The ingredients should be perfectly dry and intimately mixed. A tablespoonful should be ignited and the fumes inhaled.—WILLIAM MURRELL.

Or—

℞ Fol. elect. herb. belladonnæ.....	0.86
Fol. elect. herb. hyoscyami.....	0.18
Fol. elect. herb. stramonii.....	0.18
Fol. elect. phellandrii aquat.....	0.06
Extract. opii.....	0.008
Aquælaurocerasi.....	q.s.

The leaves are macerated in the cherry-laurel water and carefully dried, and from them cigarettes are made, of which the patient smokes one or two during the attack.—TROUSSEAU.

℞ Pulv. stramonii,	
Pulv. belladonnæ fol.....	℥℥ ʒ i.
Pulv. potassii nitratis.....	ʒ iss.
Pulv. opii.....	gr. xv.

Burn a little and inhale the fumes.

Or—

℞ Ether.....	ʒ i.
Oil of turpentine.....	ʒ iv.
Benzoic acid.....	ʒ iv.
Balsam of tolu.....	ʒ ij.

To be inhaled during an asthmatic attack.

Or—

℞ Potassii nitratis.....	ʒ iiij.
Aquæ.....	℥ ss.

Dip blotting-paper into this solution and burn when dry.

Or—

℞ Lobeliae pulveris,	
Stramonii pulveris,	
Theæ nigræ pulveris,	
Potassii nitratis.....	℥℥ partes æquales.

Misce bene et fiat pulvis. A little to be burned and the vapor inhaled, or may be rolled into a cigarette and smoked at the time of attack.

Ice pack over pneumogastric in region of neck.—SANGER.

In the intervals between the paroxysms sodium nitrate, gr. $\frac{1}{4}$ gradually increased to gr. v., three or four times daily.—S. SOLIS COHEN.

Tincture of quebracho, teaspoonful p.r.n.—PENZOLDT.

Remove the patient to mountains or seashore. Colorado offers the best climate for asthmatic patients.—SEATON NORMAN.

℞ Phenacetin gr. ij.
 Quininæ gr. i.
 Ammonii chloridi..... gr. iij.
 Capsici..... gr. ½
 Strychninæ..... gr. ¼

M. et ft. capsula No. i. Take three times daily.

—MAYS.

℞ Extract. euphorbiæ piluliferæ..... ℥ iij.
 Nitroglycerin gr. ʒss
 Sodii iodidi..... gr. ij.
 Potassii bromidi gr. ij.
 Tinct. lobeliæ..... ℥ ij.

M. ft. pil. vel. capsul. No. i. S. From one to four three times a day.

—HARE.²²

℞ Potassii iodidi..... ʒ iiss.
 Tinct. lobeliæ..... ʒ iv.
 Syr. sarsaparillæ compq.s. ad ʒ ij.

S. Teaspoonful every two hours until relieved.

Nocturnal attacks may be guarded against by hypodermic injections of small doses of strychnine and atropine in combination, and atropine may be given hypodermatically in the paroxysm.

At the onset of attack to cut it short, spray chloride of methyl rapidly up and down the patient's back, making the effect proportionate to the severity of attack and delicacy of the subject's skin.

Or paint the nasal fossæ as far back as possible with:

℞ Cocaine hydrochlorate gr. 1
 Water..... 20

Or spray the nose and pharynx with same for several minutes.—DIEULAFOY.

External Irritants.—Feather beds, animals, kerosene lamps, arsenical wall paper, various kinds of dust, and many other ob-

jects, when found to be excitants, may be easily removed; but others cannot be, and yet it may be possible to remove the patient from them.—F. I. KNIGHT.

Spasmodic asthma :

℞ Tinct. lobeliæ ætherææ..... ℥ xv.
 Spirit. ætheris..... ℥ xx.
 Tinct. chloroformi comp. (B. P.)..... ℥ v.
 Aquæ camphoræ..... ad ʒ i.

M. S. To be taken when breathing is difficult.

Or—

℞ Extract of belladonna..... gr. iv.
 Saturated solution of potassium iodide..... ʒ iiss.
 Chloroform..... ʒ iiss.
 Fluid extract of valerian..... ʒ i.
 Mucilage of acaciaq.s. ad ʒ vi.

M. S. Shake well before using. Take a teaspoonful in a wineglassful of water half an hour before meals and at bedtime.

Bronchial asthma :

℞ Sodii iodidi ʒ i.
 Ammonii carbonatis ʒ i.
 Tinct. lobeliæ..... ʒ ij.
 Spir. chloroformi..... ʒ iv.
 Vini ipecacuanhæ..... ʒ i.
 Infus. senegæq.s. ad ʒ vi.

M. S. A tablespoonful in a wineglassful of water every four hours.

—RAINEAR.

Or—

℞ Ammonii iodidi..... ʒ ij.
 Ext. grindeliæ robustæ..... ʒ ss.
 Tinct. lobeliæ,
 Tinct. belladonnæ.....āā ʒ i.
 Syrup. pruni virginiani..... ʒ i.
 Aquæ destillatæ..... ad ʒ ij.

M. S. Teaspoonful three times a day.

℞ Tinct. sanguinariæ,
 Tinct. lobeliæ,
 Ammonii iodidi.....āā ʒ i.
 Syr. tolutani..... ʒ vi.

S. Teaspoonful every two to four hours.

℞ Potassii iodidi 3 iij.
 Extr. belladonnæ..... 3 i.
 Extr. lobeliæ..... 3 ij.
 Extr. grindeliæ..... ʒ ss.
 Glycerini,
 Aquæ destillatæ..... āā ʒ iss.

M. S. ʒ ss. every two, three, or four hours, as necessary.

—BARTHOLOW.

℞ Ammonii carbonatis,
 Potassii iodidi āā 3 ii.-iij.
 Tinct. belladonnæ..... 3 i.
 Spt. vini Portensi ʒ ij.
 Aquæ..... ad ʒ iv.

M. S. Teaspoonful in water before retiring and in intervals of eating.

—ILLINGWORTH.

℞ Ammonii iodidi..... 3 ij.
 Ammonii bromidi 3 iij.
 Syr. tolutani ʒ iij.
 Tinct. lobeliæ..... ad ʒ v.

M. S. A teaspoonful.

—FOTHERGILL.

℞ Codeinæ sulphatis gr. iv.
 Potassii iodidi..... 3 i.
 Chloroformi purificati ℥ lxxx.
 Syrupi ʒ iij.
 Mucilaginis acaciæ q.s. ad ʒ v.

M. S. Dose, a teaspoonful.

—BURT.

Caution.—Iodides should be stopped at once if acute or passive œdema of the lungs occurs in the treatment of respiratory affections, and heart tonics be resorted to.—HUCHARD.

℞ Tinct. lobeliæ,
 Tinct. hyoscyami,
 Spt. ætheris comp.,
 Syr. tolutani āā ʒ i.

M. S. Teaspoonful in water every half-hour, during the paroxysm, until some effect is produced on the breathing, and then every hour or two.

Or—

℞ Spt. ætheris comp.,
 Ext. valerianæ..... āā ʒ i.
 Tinct. lobeliæ 3 ss.
 Potassii chloratis 3 iss.
 Syr. tolutani..... ʒ iss.

M. S. Dessertspoonful in water thrice daily.

—DA COSTA.

Bicycle Exercise.—Of all means of training respiration, cycling is the best.—MARCET.

Turkish baths may be of benefit.

DIET is of great importance, especially in elderly subjects and those having a weak heart. Death in such asthmatics often occurs suddenly after a hearty meal.

Let the evening meal especially be light, eaten slowly, and without too much farinaceous food, particularly if flatulent fermentation is present. Distention of the stomach from too free use of aerated waters is likewise to be guarded against.

If nephritis is a possible cause, the diet should consist largely or solely of milk, and diuresis and diaphoresis must be encouraged by baths and drugs.

In obstinate cases :

℞ Ammonii carbonatis..... gr. vij.
 Antimonii et potassii tartratis gr. ʒ
 Aquæ anisi..... ʒ iss.

M. S. A draught to be taken every alternate hour.

—J. HOPE.

In nervous asthma :

℞ Tinct. veratri viridis..... gtt. xxxvi.
 Morphinae sulphatis..... gr. i.
 Syr. ipecacuanhæ..... ʒ vi.

M. S. A teaspoonful every three hours, if necessary.

—J. L. COOK.

In cases of dry asthma, of constitutional character :

℞ Liquor iodi comp ʒ i.
 Mellis..... ʒ ij.

M. S. Teaspoonful every three hours.

—C. A. L. REED.

Asthma with emphysema :

℞ Tinct. opii 4
 Ætheris sulphurici..... 8

M. S. About fifty drops every twenty minutes.

—CLYMER.

Caution.—Large dose, to be watched in the aged and avoided in the very young.

“Fresh air” is better than “hot-house” treatment, and undue coddling is harmful. Potassii iodidi, gr. x.-xx. t.i.d.—SQUIRE.

Ethyl nitrite (two and one-half per cent. solution), 3 i. every ten minutes until three or four drachms are taken. Sodium nitrite may at times be better borne.—LEECH.

As a preliminary course and to correct a disordered state of the stomach:

℞ Tinct. stramonii.....	3 ij.
Ammonii carbonatis.....	3 i.
Sodii carbonatis.....	3 iij.
Magnesii carbonatis.....	3 i.
Pulv. rhei.....	gr. xxv.
Chloroformi	℥ xx.
Aq. menthæ piperitæ.....	ad 3 viij.

M. S. 3 ss. in an equal amount of water three times daily.

As soon as a temporary lull is secured by the above, begin a course of arsenic, giving as much as the stomach will bear.—W. MURRAY.”

Climate.—Change of climate is advisable when the subject can be removed from some direct irritant, as in hay-fever cases, and when a change will act favorably on his bronchial inflammation.

If the bronchitis is moist, a dry elevated region is indicated, but a warm, moist climate will probably be better if the bronchial mucous membrane is dry and irritable.—FREDERICK I. KNIGHT.

℞ Sodium iodide,	
Tincture of stramonium.....	āā 3 i.-iij.
Extract of licorice.....	3 i.
Syrup of squill.....	3 i.
Distilled water.....	3 vi.

M. S. A tablespoonful three or four times a day.

Potassium iodide is my favorite remedy for pure bronchial asthma; but I have seen great good follow the use of *grindelia robusta* and *euphorbia pilulifera*.—S. O. L. POTTER.

As a nebulized inhalant :

℞ Antipyrin.....	gr. xv.
Pyridin	3 i.
Sodium nitrate.....	3 ij.
Tincture of belladonna,	
Tincture of lobelia,	
Tincture of stramonium,	
Tincture of ipecac.....	ss 3 v.
Glycerin.....	q.s. ad 3 iv.
—F. T. ROGERS.	

Ethyl iodide given cautiously by inhalation.—BRIDGE.²²

℞ Sodii arsenitis.....	3 ss.-i.
Aq. destillatæ	3 i.

Moisten unsized white paper, and roll into cigarettes, each containing gr. $\frac{1}{4}$ to gr. i. of the salt. Two or three of these to be inhaled daily.—BARTHOLOW.

Caution.—Watch closely for fear of ill effects.

℞ Potassii nitratis	2½ parts.
Belladonnæ fol. pulv.....	½ part.
Stramonii fol. pulv	5 parts.
Sacchari albi	½ part.

Dissolve the nitre in just enough water to make a saturated solution, mix with the leaves, dry the mass into a coarse powder, and add the sugar. A small quantity is to be placed on a tin plate and ignited, and the smoke inhaled.—WILLIAM M. WELCH.

In children : Pyridin, gtts. v., placed upon a handkerchief, to be worn over the chest, attached about the neck.—BARRIÉ.

Sodium iodide, gm. 1-4. For daily dose.

Asthma, Cardiac.

Cardiac asthma is in many instances only a paroxysmal symptom in the course of dyspnoea, more or less constantly present from faulty heart action and circulatory disturbances. Auscultation may disclose an exaggeration of the second aortic sound to the right of the sternum at the time of the attack,

which, as in bronchial asthma, is of paroxysmal nature and nocturnal. The Cheyne-Stokes variety of respiration may be present, especially in degeneration of the heart muscle. It is apt to be superinduced by unusual efforts.

In cardiac asthma the pulse may be strong at the beginning, but in the later stage it is *soft* and small. In bronchial asthma the pulse is increased in tension as a result of increased blood pressure.—VON LEUBE.

TREATMENT of the disease is to be directed to those conditions which are causative. In case morphine and the iodides fail in giving relief and preventing the paroxysms, an exclusive milk *régime*, according to Huchard, gives most satisfactory results by diminishing the arterial tension caused by the disease itself and by an alimentary auto-intoxication.

℞ Sodii iodidi 25
Decoct. helenii 300
M. S. A dessertspoonful each morning between attacks.

℞ Sodii bromidi 25
Infus. humuli 300
M. S. A tablespoonful before the evening meal.

In the attack place the hands in cold water, apply ammonia to the nostrils, and give:

℞ Tinct. opii 4
Aq. laurocerasi 6
M. S. Five drops every five or ten minutes.

For subcutaneous injection :

℞ Atropinæ sulphatis 0.01 cgm.
Morphinæ sulphatis 0.20 cgm.
Aq. laurocerasi 10 gm.
Dose : ℥ x.

Between attacks :

℞ Ext. stramonii,
Zinci valerianatis 0.10 cgm.
For one pill. Give morning and night.

—FERRAND."

During attack :

℞ Hyoscinæ hydrochloratis..... gr. $\frac{1}{10}$ - $\frac{1}{10}$
 Give by hypodermic injections.

—HARLEY.

Inhalation of compressed air.

For cardiac asthma there is but one remedy, morphine.—

S. O. L. POTTER.

℞ Liquor. morphinæ sulphatis (U. S. P.),
 Spiritus ætheris composit..... ℥i.
 S. Teaspoonful every three hours if necessary.

Climate.—If in spite of treatment there is an increase in the number of paroxysms, a change of climate should be made.

After acclimatization takes place, symptoms may reappear.

Ataxia, Hereditary.

Friedreich's disease, or hereditary ataxic paraplegia, attacks children whose parents were perhaps healthy. Brothers and sisters are more often found affected, though isolated instances are recorded in which all brothers and sisters remained free.

DIAGNOSIS.—Inco-ordination of movement is usually first noticed in the legs, causing inability to walk or to stand properly. The gait is unsteady, and in attempts to stand quietly the body oscillates.

The ataxia gradually invades the trunk, arms, and tongue, and paraplegia may come on, or more commonly a paresis. With the eyes closed the swaying increases (Romberg's sign); the feet are placed apart in walking and there is a tottering or staggering as from drink.

Other symptoms of prominence are: Loss of "knee jerks." Nystagmus or erroneous projection. Tremor and jerky unsteadiness of the head, neck, and arms. Lateral curvature of spine. Speech—slow, hesitating, drawling, thick, or indistinct. Then the clear mind, perfect senses, normal sensation, pes

cavus, head bent forward, weakness of certain muscles, choreiform movements or vertigo, complete the picture.—LANGFORD SYMES.

DIFFERENTIATION.—From cerebellar tumor, by the absence of headache, vomiting, spasms, optic neuritis, etc.

From locomotor ataxia, by the latter not affecting children; by the absence of the Argyll-Robertson pupil, of bladder disturbances, and of disturbances of sensibility; by the characteristic crises, and the fact that tabetics carry the trunk steadily and walk in a straight line but with jerky steps.

Hysterical ataxia may simulate the condition.

From multiple sclerosis: Friedreich's disease begins in early childhood; multiple sclerosis rarely, if ever. In multiple sclerosis the patellar reflex is exaggerated; in Friedreich's disease it is absent.

From hereditary cerebellar ataxia: here the patellar reflex is exaggerated.—STRÜMPPELL.

Hereditary Spinal Ataxia.

1. Gradual impairment of co-ordination, first in legs, afterward in arms. Later in the disease the patient may reel as if under the influence of alcohol.

A quick backward and forward balancing-movement.

2. Station: Closure of eyes, as a rule, increases the unsteadiness; this may be absent.

3. Titubation of upper extremities very uncommon. Irregularity in voluntary movements of arms and fingers.

4. Frequently jerky, irregular movements of head and neck. Sometimes like an irregular tremor.

5. Mimetic muscles do not show ordinarily overcontraction.

6. Ataxia is not so great when the patient is lying.

Hereditary Cerebellar Ataxia.

1. Gait: Uncertain, reeling; gait of one inebriated. Patient frequently walks with body bent forward and the head thrown backward, and the feet wide apart.

Does not have to watch the feet. Feet wide apart.

2. Station: Romberg symptom absent.

3. Titubation and inco-ordination and loss of dexterity in the upper extremities. Choreiform movements exaggerated on voluntary effort; "intentional."

4. Not infrequently oscillations or jerky movements of the head, less often of the trunk.

5. Exaggerated contraction of the mimetic muscles on speaking.

6. Ataxia is very much less, or disappears when the patient is lying, but the inco-ordination persists.

Hereditary Spinal Ataxia.

7. Affection of speech may be absent; when it does occur is a late symptom, and consists of an eliding of syllables and an occasional hesitation.

8. Nystagmus is a very common symptom, but it may be lacking.

9. Myotatic irritability is lost. Knee jerks may be present in the beginning of the disease, but they soon disappear. Ankle clonus is never present.

10. Mentally, normal. Very rarely any defect.

11. Deformities of the extremities, such as pied bot and spinal curvature, very common.

Hereditary Cerebellar Ataxia.

7. Speech: Hesitating, abrupt, explosive, ataxic, defective.

8. Eyes: Twitching of the eyeballs very common, but not nystagmus. Optic atrophy, progressive choroiditis, paralysis or paresis of the external recti sometimes.

9. Myotatic irritability increased; reflexes exaggerated, such as knee jerks; often ankle clonus.

10. Mental shortcomings varying from slight psychical disturbances up to a considerable degree of dementia.

11. Deformities of the extremities and spine, such as pied bot or scoliosis, do not occur or are most rare.

—COLLINS.

Hereditary spinal ataxia shares with disseminated sclerosis of childhood a number of important symptoms. The main differences may be summed up as follows:

Friedreich's Disease.

Knee jerks lost or diminished.

Eyes: Pupils and fundus normal; ocular nerve palsies very rare.

Speech halting and explosive, blurring.

Multiple Sclerosis.

Exaggerated.

Pupils frequently unequal, reflexes may be lost; discoloration of the optic discs; amblyopia; ocular nerve palsies common.

Laborious, monotonous, and scanning.

—STIEGLITZ.¹⁹²

PROGNOSIS.—While cure and even spontaneous recovery are possible, the affection is of long duration (ten to twenty years) and relapses are frequent after temporary improvement.

The child is usually said to become unable to walk in from three to five years, and is then confined to bed or to his chair for perhaps fifteen or twenty years.—LANGFORD SYMES.

TREATMENT.—*Prophylaxis.* When a case has been discov-

ered in a family, the other children should be protected by increased care in preventing infectious disease which hastens the development of ataxia; likewise in guarding against over-exertion and mental strain.

Galvanism to the spinal column, it is said, may effect a cure.

Massage, combined with active and passive movements; movements against resistance. Hydrotherapy of mild nature. Methodical exercise of the muscles. Silver nitrate, ergotin, arsenic, strychnine, etc., may be tried from time to time, but it is doubtful if drugs will influence the course.—STRÜMPPELL.

Ataxia, Locomotor.

Tabes dorsalis, or, as it has been more often called, posterior spinal sclerosis, is a chronic degenerative process involving the posterior horns of the spinal cord.

DIAGNOSIS.—The symptoms include inco-ordination of limb movement without muscular atrophy or paralysis, absence of knee jerk, Argyll-Robertson pupil, sexual weakness, bladder incompetence, weakness of limb. Lancinating pains and pupil symptoms are almost always noted, and impotence is found in about one-half the instances. A “girdle” sensation is not always present.

A squint, ptosis, or Argyll-Robertson pupil may be the first symptom, and may exist with the loss only of the knee jerk.—OSLER.

There are symptoms of lightning-like pains in the legs, and with the eyes shut and heels close together the subject sways, if he does not actually fall. This is not, by any means, a constant early symptom, and inco-ordinate movements may come quite late. Many subjects of ataxia are quite capable of standing with the eyes closed. Paræsthesias, however, occur in the early periods. Patrick says that in almost all cases there is a band of anæsthesia about the trunk at the level of the nipple.

This is essentially tactile, since the pain sense may be quite normal. This symptom does not serve to distinguish from syphilitic pseudo-tabes, in which it may likewise exist.

Flexing the thigh at the hip without bending at the knee does not give the normal painful sense of popliteal tension, even in the early stage of tabes. This sign is not invariably present.—J. J. PUTNAM.

DIFFERENTIATION.—Rheumatism is most apt to be thought of, and treatment given in accordance with this view when the early pains of tabes lead the subject to consult a physician. Even at this time the absence of knee-jerk and some signs of inco-ordination may be made out. There is likewise an absence of soreness in the limbs, and the double-sided, persistent character of the pain usually soon exclude both gout and rheumatism.

Ataxia as a symptom of lead poisoning must not be mistaken for true tabes.

Pseudo-tabes of syphilitic origin is excluded by the history, course, and other symptoms present.

From multiple neuritis: Here there are rapid onset and paralysis, preservation of control of bladder, and absence of Argyll-Robertson pupil.—M. ALLEN STARR.

If the pupil symptom is present, it will greatly aid. Cardiac and gastric crises are characterized by the patient's entire freedom from disturbance the moment the attack is at an end.

PROGNOSIS.—Death usually occurs from some intercurrent disease while the ataxia is still progressing, perhaps many years from its onset. The pre-ataxic stage in itself may extend through two decades. The tabetic symptoms are curable, and many patients are susceptible of great improvement.

TREATMENT.—In the earliest stage, antisyphilitic treatment whenever the case is suspicious. In all instances in which lesions are present or a history of syphilis is not too remote, antisyphilitic treatment alternating with electricity. Carrying out

persistently some outlined plan has an effect also from the psychical side.

When peripheral neuritis exists, the use of tonics and electricity is indicated.

In the later stages hydrotherapy and the administration of nitrate of silver have been used with reported benefit. Suspension was formerly supposed to be beneficial, but it has not yielded invariably good results. It may improve the gait, bladder paresis, and Romberg's sign (a swaying motion of the body when the patient places his feet together and closes the eyes).

In the later stages it is advisable to alternate with mercurial and potassium-iodide courses. Injections of calomel, gray oil, or bichloride of mercury are especially recommended. Massage, suspension, electricity, and psychical treatment may be added at the discretion of the physician.

In the latest stage it is best to spare the patient the annoyance of any treatment unless it be symptomatic, supplemented with sympathy and tact.—**ERB.**

For the pains :

℞ Phenacetin..... gr. x.
Antipyrin gr. v.

In capsule.

℞ Aluminii chloridi..... gr. ii.-iv.

In water three or four times a day.

—**GOWERS.**

Or opium, avoiding so far as possible morphine hypodermatically.—**GRASSET.**

To retard the progress :

℞ Aluminii chloridi..... gr. iij.

Repeated p. r. n.

For the inco-ordination, the Fraenkel method, consisting in teaching the patients to make movements with exactitude for ten minutes at a time, with an interval of ten minutes' rest. The object of the treatment is to convert the simplest ataxic movement into a normal one.

Caution.—The method is contraindicated in acute and sub-acute ataxia, and relatively contraindicated in cardiac valvular disease. Sports of all kinds, and especially cycling, are to be forbidden even in the earliest stages of tabes.

Systematic exercise for training the ataxic limbs often produces very satisfactory results.—C. L. DANA.

Hydrotherapy.—Cold shower baths, cold packs, sea bathing, and sulphur baths. The water cures at Rheims, Teplitz, Wildbad Gastein, Nauheim, Kissingen, and Aix-la-Chapelle are recommended.

In the early stages, advise a quiet life, free from strain and overwork.

Teach the patient how to protect himself from sudden changes of temperature, from dampness, and from cold; and seek to relieve special symptoms as they arise.—LEYDEN.

Electricity is of benefit in a certain proportion of instances.

There being no syphilitic exudation in true tabes, anti-syphilitic treatment is uncalled for. Diet, hygiene, and rest are the main factors in the successful management of the disease.—F. W. LANGDON.

℞ Extr. physostigmatis gr. x.
Pulv. zingiberis gr. xx.

M. et ft. pil. No. xx. S. One pill t.i.d.

—RINGER.

℞ Argenti nitratis gr. ½
Micæ panis q.s.

For one pill. S. One or two before each meal.

Caution.—Watch the state of the gums and intermit after a few weeks to prevent argyria.—CHARCOT.

To relieve pain and improve vesical symptoms :

℞ Extr. belladonnæ gr. iv.
Olei terebinthinæ 3 ij.
Olei theobromatis q.s.

M. et ft. capsul. xii. S. One t.i.d.

—A. M. HAMILTON.

For the "lightning" and "girdle" pains :

℞ Methylene blue gr. ii.-ij.
In capsule t.i.d. until the urine has become colored.

—LEMOINE.

The effect of drugs upon posterior sclerosis is very slight; antisiphilitic treatment is of no value, the contrary statements abundant in literature being based upon wrong diagnoses.—WOOD AND FITZ.

Moderate exercise, avoiding all fatigue. Good general diet without special restrictions, which weaken patient. Spinal douches, tepid or cool, never extreme. Massage. Practise in fine movements to overcome ataxia. Medicines—arsenic, nitrate of silver, ergot.—M. ALLEN STARR.

℞ Acidi phosphorici diluti 3 vi.
Syrupi 3 iij.

M. S. 3 i. in water t.i.d., gradually increased to 3 ij., together with the application of electricity.

—AUSTIN FLINT.

℞ Argenti nitratis gr. vi.-viiij.
Extr. nucis vomicæ gr. xij.

M. et ft. pil. No. xxiv. S. One after each meal.

—HAMILTON.

For the sclerosis :

℞ Potassii iodidi gr. x.
Twice daily in milk or beer.

If not well tolerated:

℞ Tinct. iodi gtt. v.-vi.

In milk twice daily. Continue for several months with a rest of ten days each month.

—GRASSET.

In the severer forms, rest in bed for weeks; in the milder types a few hours in bed each day might suffice.—LANDON C. GRAY.

Caution.—There is no drug that is perhaps more universally discarded in the treatment of locomotor ataxia than strychnine. Ataxics are particularly sensitive to it, and I have seen

a patient stiffened by one-one-hundredth of a grain. No drug will more surely give discomfort and pain.—C. L. DANA.

In the chronic stage suspension often does good.

Caution.—Stretching the spinal cord should be refused to cachectic subjects.—GILLES DE LA TOURETTE.

Atelectasis.

In collapse of the pulmonary air cells in the adult, extensive areas superficially situated give a dull percussion note, harsh respiratory murmur, and increased vocal fremitus, and hence this condition must be distinguished from pneumonia, in which the gradual onset and restriction to the dependent portion of the lungs will serve to render the diagnosis easy.

In congenital atelectasis, usually associated with premature birth, the lung tissue does not expand and the respiratory murmur is feeble and rude in quality.

In the acquired form there are dyspnoea, difficult shallow breathing, pallor, the finger tips and face being dusky, coldness of the extremities, feeble cough, rapid pulse, and slight expansion of the chest wall.

DIFFERENTIATION.—In order to differentiate from pneumonia, place the patient on the healthy side (*i.e.*, if there is right-sided dulness, on the left side, and *vice versa*), and ask him to take a number of deep inspirations. This serves to dilate the alveoli in atelectasis and with a stethoscope one can hear a crepitation due to the separation of the alveolar walls. Often in a short space of time, frequently in half a day, an area of dulness with bronchial breathing and bronchophony will give way to a pulmonary note and normal breathing.—VON LEUBE.

TREATMENT.—In infants the alternate use of the hot and cold bath, as in cases of asphyxia, or other means should be used to induce loud crying in order to bring about expansion.

This should be repeated at intervals, according to the urgency, once, twice, or oftener daily.

External heat or the use of the incubator may be required.

In the adult frictions, massage, hot baths followed by cold douches, inhalations of oxygen or compressed air, and carbonate of ammonium in small and frequent doses are advised.

Beri-Beri.

This epidemic affection of the tropics, China, Japan, Australia, and the Dutch Indies, is occasionally encountered on vessels coming into other ports, some of which become known as beri-beri ships. It also, though rarely, occurs in asylums, etc., in Europe as well as in America.

DIAGNOSIS.—The symptoms are almost identical with those of peripheric neuritis due to known infectious agents. An œdematous, a paralytic, and a mixed form are recognized. In the first, along with anæmia of rapid development, there is general anasarca or œdema, most frequently over the sternum and spine, with serous effusions and progressive exhaustion. Pressure over the œdematous parts is often painful. In the paralytic form, after various painful and anæsthetic phenomena, clumsiness in walking, wobbling at the knee, and relaxation of the ankle-joint are noted, followed by paralysis of the limbs. The heart may be irritable in action, with reduplication of the first sound. Its epidemic occurrence is a diagnostic feature.

DIFFERENTIATION.—From primitive infectious polyneuritis; from the multiple neuritis or pseudo beri-beri of New England fishermen, which develops off the banks of Newfoundland.

The parasitic anæmia, known as ankylostomiasis, is identified by the worm, which may be found after administration of thymol, or by finding ova. An epidemic malarial fever peculiar to Assam, known as “kala azar,” has a history of slow spread and infectiousness.

PROGNOSIS.—Many instances terminate fatally, but usually only after a period of general or partial paralysis. Death may result from heart failure. Mortality varies from three to seventy per cent in different epidemics.

TREATMENT is mainly symptomatic after the disease has declared itself. Diet plays an important rôle. Avoid an exclusive rice diet. In certain regions this is the chief food of the natives who fall victims. The gastro-intestinal disorders of severe cases are to be dealt with according to indications.

In heart failure strychnine, digitalis, strophanthus.

There is no specific treatment; calomel and magnesium sulphate give undoubted relief and decrease the œdema.

After the acute stage, tonics, electricity, and massage.—

BONDURANT.

℞ Strychninæ sulphatis,
Ammonii arsenitis.....ãã 0.05
Calcii phosphatis,
Ext. juglandis,
Ferri lactatisãã 2

M. et ft. pilulæ No. xxxvi. S. Take two pills daily.

℞ Aquæ..... 150
Tincturæ scillæ..... 8
Tincturæ digitalis..... 2
Syrupi quininæ..... 8
Liquoris ammonii acetatis..... gtt. xij.

M. S. Two tablespoonfuls in water every three hours.

—J. DIAS RIBIERO.

Bronchiectasis.

The most characteristic feature of bronchial dilatation is the sudden ejection of an excessive amount of sputum after paroxysms of coughing. The sputum is of a dirty gray color, of a disagreeable odor, at times distinctly putrid, and, on standing, separates into three layers: 1, an upper frothy muco-purulent layer; 2, a middle muco-serous layer; 3, a lower purulent layer (Strümpell).

The physical signs correspond to those of chronic bronchitis,

unless the condition is circumscribed, when they simulate those of cavity, with cavernous breathing, coarse and gurgling râles, etc.

DIAGNOSIS is difficult when only signs of chronic bronchitis are present with perhaps respiration of more bronchial character and less resonant percussion note. When dilatation is sacculated the note is tympanitic.

DIFFERENTIATION from cavity, especially when retraction of chest and other signs attributable to phthisis are present, is most difficult. The chief point is that the symptoms do not grow worse as in tuberculosis.

Patients with bronchiectasis do not look cachectic, but somewhat cyanotic, often anæmic. The end phalanges are more frequently clubbed than in phthisis.—STRÜMPPELL.

Bronchiectatic cavities, as a rule (not always, however), develop in the lower parts of the lungs, whereas tuberculosis, as a rule, attacks an upper lobe.—STRÜMPPELL.

PROGNOSIS.—The general health remains good.

TREATMENT.—

To relieve the fetor of expectoration :

℞ Creosoti..... ℥ i.-ij.
Three times daily.

—CROOK.

In children :

℞ Eucalyptol.....	2 parts.
Tincture of benzoin.....	10 “
Balsam of copaiba	16 “
Creosote	5 “
Sweet-almond oil	7 “

M. S. Gtt. xxx. in milk as an enema, the child lying on its side with knees slightly drawn up and a soft-rubber catheter passed four inches into the bowel.

—MOLLE.

Inject slowly into the cavity after disinfecting the chest wall and introducing in the intracostal space a long needle attached to a Pravaz syringe:

R̄ Acidi carbolicī.....	8
Aq. destil.....	100
M. S. Inject one or two cubic centimetres.	

—ROKITANSKY; also J. B. WHITE.

Revulsives are sometimes indicated in inflammatory states attending bronchial dilatation.

Inhalations of oleum terebinthinæ rectificatum or of carbolic acid, one per cent.—NEUSSER.

Inhalations of creosote vaporized in a metallic dish over a spirit lamp, the patient breathing in the fumes in a close room for from ten minutes to an hour.

Caution.—The nares should be plugged with cotton and the eyes protected with watch-glass coverings.—DOBELL.

Inversion may be practised several times daily to favor evacuation of dilated bronchi by gravity. The patient lies upon the bed with one hand on the floor and the head almost touching it.—DIDAMA.

Bronchitis.

Bronchial affections in general, exclusive of the capillary form, are distinguished by the lesser degree of severity in the symptoms, the fact that there is bilateral involvement, and that the râles are out of proportion to the physical signs, as compared with other lung diseases.

Bronchitis, Acute.

There is here a paroxysmal cough aggravated by lying down and usually worse again in the morning, attended at first by frothy and later on by muco-purulent expectoration.

DIAGNOSIS.—We hear in the chest abundant moist bronchial râles which vary in situation and intensity of sound with the cough and freedom of the exudation and expectoration. The percussion note is clear, the respiration harsh. The course is acute; the fever is not high. The cough is

hard dry, teasing or tearing at first, and produces considerable chest lameness.

DIFFERENTIATION.—Broncho-pneumonia associated with diffuse bronchitis gives symptoms of greater general gravity. There may be areas showing dulness and bronchial breathing.

Croupous pneumonia is distinguished by the dulness, bronchial breathing, and other evidences of solidity of lung tissue, especially when unilateral.

Acute tuberculosis or miliary phthisis has so tympanitic a percussion note that the severity of general symptoms must lead to suspicion of this affection in case of double-sided bronchitis with high fever. Dyspnoea and cyanosis are, however, greater than in acute bronchitis, and tubercle bacilli may be found in the sputum.

Pertussis.—In whooping-cough before the “whoop,” the signs of bronchitis can be rightly interpreted only when known exposure, coryza, redness of fauces, and the slight effect of remedies direct attention in this direction.

Typhoid.—The bronchitis in the early stages of enteric fever is accompanied by headache, perhaps nosebleed, diarrhoea, and more persistent fever.

Croup (spasmodic laryngitis).—Spasms are more marked, attended with more stridulous breathing, and there is no fever.

Rubeola.—The cough is here accompanied by coryza, and in this early stage Koplik’s sign consisting of minute pearly spots on the buccal membrane indicates the nature of the affection.

TREATMENT.—*A diaphoretic alkaline mixture.*

℞ Morphinae acetatis.....	gr. i.
Potassii acetatis.....	3 iij.
Liq. ammonii acetatis.....	3 iij.
Syr. toluani	℥ i.

M. S. A dessertspoonful every three hours.

In the dry stage of a cold, there is no expectorant equal to apomorphine in doses of gr. $\frac{1}{30}$ by the mouth, every hour or

two. I usually prescribe gr. i. in $\bar{3}$ iv. of water; to be dispensed in a blue bottle, of which a teaspoonful is to be taken by an adult every hour or two. It is well to warn the patient about the solution turning green, if dispensed in a white bottle, as otherwise the change of color is alarming.—S. O. L. POTTER.

Acute bronchitis:

℞ Carbonate of ammonium,
Salicylate of sodium.....āā 3 i.
Camphorated tincture of opium,
Syrup of orange flowers,
Syrup of tulu.....āā $\bar{3}$ i.
Water $\bar{3}$ ij.

M. S. A dessertspoonful every three hours.

—LEWINTHAL.

℞ Ext. glycyrrhizæ gr. xx.
Phenacetin gr. xx.-xl.
Ammonii muriatis..... 3 i.-ij.
Sacch. albi 3 ij.

M. et in chart. xx dividendi. S. One powder to be taken in a little water every two, three, or four hours.

℞ Syr. tolutani,
Syr. pruni virginianæ,
Tinct. hyoscyami,
Spir. ætheris comp.,
Aquæ.....āā 3 iij.

M. S. Dose, a teaspoonful.

—E. G. JANEWAY.

℞ Tinct. opii camphoratæ,
Tinct. hyoscyami,
Syr. pruni virginianæ,
Syr. tolutani.....āā 3 iv.

M. S. Dose, a teaspoonful.

—J. A. STEURER.

℞ Quininae sulphatis..... gr. $\frac{1}{2}$
Pulv. Doveri gr. $\frac{1}{10}$
Pulv. ipecac..... gr. $\frac{1}{10}$
Ext. belladonnæ gr. $\frac{1}{10}$

For one tablet or pill. One such every three hours.

—DELAFIELD.

℞ Potassii citratis..... $\bar{3}$ ss.
Apomorphinae hydrochlor..... gr. i.
Syr. ipecacuanhæ..... $\bar{3}$ ss.
Succi limonis..... $\bar{3}$ ij.
Syr. simplicis.....q.s. ad $\bar{3}$ iv.

M. S. $\bar{3}$ ss. in water every three hours.

—WOOD.

℞ Vini ipecacuanhæ..... 3 ij.
 Liq. potassii citratis..... ʒ iv.
 Tinct. opii camphoratæ,
 Syr. acaciæ..... āā ʒ i.

M. S. Tablespoonful three times a day.

—DA COSTA.

To allay the spasmodic coughing :

℞ Morphinae sulphatis..... 0.05 cgm.
 Chloralis 5 gm.
 Emula. ol. lini..... 150 gm.

M. S. Teaspoonful an hour after meals.

—W. H. THOMSON.

℞ Ammonii chloridi,
 Sodii iodidi..... āā 3 iij.
 Syrupi tolutani,
 Syrupi senegæ āā ʒ iss.

M. S. ʒ i. t. i. d.

—ESHNER.

℞ Bromoform gr. cxiiij.
 Codeine phosphate gr. xv.
 Compound syrup of squill..... ʒ iiss.
 Syrup of lactucarium..... ad ʒ iv.
 Powdered gum arabic q. s.

M. et fiat emulsio. S. Two teaspoonfuls every two hours.

—BABCOCK.

For irritative cough :

℞ Codeinæ gr. iii.-vi.
 Acidi hydrocyanici dil..... gtt. xx.
 Chloroformi purificati..... ℥ xx.
 Syr. tolutani..... ʒ iv

S. ʒ i. every four hours.

—J. B. WHITE.

℞ Antimonii et potassii tartratis..... gr. i. ½
 Liquor ammonii acetatis..... ʒ ij.
 Syr. tolutani,
 Aquæ āā ʒ i.

M. S. A tablespoonful thrice daily.

—GEORGE JOHNSON.

℞ Apomorphinae muriatis..... gr. ¼-½
 Acidi muriatici gtt. v.
 Syrupi ʒ i.
 Aq. destil..... q. s ad ʒ iv.

M. S. Teaspoonful every two hours for a child of five or six years.

—DEMLITZ.

℞ Tinct. sanguinaris. 3 i.
 Tinct. lobelis. 3 i.
 Vini ipecacuanhæ. 3 ij.
 Syr. tolutani. 3 ss.

M. S. Tablespoonful every three hours.

—BARTHOLOW.

In acute stage of gouty bronchitis :

℞ Potassii iodidi,
 Ammonii carbonatis. ãã gr. iv.
 Vini colchici ℥ x.
 Tinct. scillæ,
 Tinct. hyoscyami. ãã ℥ xx.
 Aq. camphoræ. q.s.

M. Make a draught. S. To be taken thrice daily.

—GREENHOW.

℞ Ammonii carbonatis. gr. xxxij.
 Extr. senegæ, fld.
 Extr. scillæ fld. ãã 3 i.
 Tinct. opii camphoratæ. 3 vi.
 Aquæ. 3 iv.
 Syrupi tolutani q.s. ad 3 iv.

M. S. A teaspoonful.

—STOKES.

In bronchitis following influenza :

℞ Tinct. nucis vomicæ,
 Tinct. digitalis. ãã 3 ss. — 3 i.
 Tinct. cardamomi comp. ad 3 ij.

M. S. Teaspoonful in water four times daily.

In that depending upon the gouty state :

℞ Vini colchici. 3 i.
 Vini antimonii. 3 ss.
 Potassii bicarbonatis 3 iss.
 Aquæ destillatæ. ad 3 vi.

M. S. Tablespoonful in water four times daily.

—T. G. STEWART.

To check incessant and troublesome cough, and in the bronchitis caused by ether inhalation :

℞ Tinct. belladonnæ ℥ x.
 T.i.d.

Also useful in the profuse watery expectoration following aspiration.—RINGER.

℞ Pulv. Doveri,
Antimonii sulphurati.....āā gr. ½-½.

Two to four times daily.

The best sedative is codeine sulphate, gr. ½.—HUBBARD.

An expectorant mixture :

℞ Syrup of ipecac..... 8-10 parts.
Syrup of tolu,
Brandy or rum.....āā 20 parts.
Potassium bromide 1 part.
Linden water..... 75 parts.

M. S. A tablespoonful every two hours.

—ESPAGNE.

In children :

℞ Vini ipecacuanhæ ℥ v.
Liq. ammonii acetatis ℥ x.
Glycerini ℥ xv.
Aquæ aurantii floræ.....ad 3 i.

M. ft. haustus. S. For an infant, to be taken every four hours.

—EUSTACE SMITH.

℞ Syr. senegæ,
Syr. pruni virginianæ,
Syr. acaciæ.....āā 3 i.

M. Dose, a teaspoonful.

—T. H. HOLGATE.

℞ Syr. ipecacuanhæ,
Spir. ætheris nitrosiāā 3 ij.
Olei ricini 3 ij.
Syr. tolutani 3 i.

S. 3 i. every two or three hours. For a child two to three years old.

—J. L. SMITH.

℞ Acidi gallici gr. x.
Vini opii ℥ v.
Spts. vini gallici..... 3 iss.
Aq. chloroformi.....q.s. ad 3 iss.

M. S. 3 i. three times a day.

—GOODHART AND STARR.

When flow of mucus has been established :

℞ Tinct. scillæ ℥ xx.
 Syr. tolutani,
 Syr. pruni virginianæ āā ʒ ss.
 Aquæ ad ʒ iiss.

M. S. Teaspoonful to a child of one year.

—F. GORDON MORRILL.

℞ Ammonii carbonatis gr. x.
 Syr. ipecacuanhæ ʒ iss.
 Tinct. opii camphoratae ʒ i.
 Syr. pruni virginianæ ℥ xxx.
 Aquæ q.s. ad ʒ ij.

Dissolve and mix. Dose, a teaspoonful.

—A. R. ROBINSON.

℞ Tinct. opii camphoratae,
 Spir. ammoniæ aromat.,
 Syr. pruni virginianæ āā ʒ i.
 Extr. ipecacuanhæ ℥ xxx.
 Aquæ q.s. ad ʒ viij.

S. ʒ i. every three hours.

—*Bellevue Hospital Formulary.*

Bronchitis with struma in a child of four years :

℞ Ammonii chloridi gr. xlv.
 Syrupi ferri iodidi ℥ xlv.
 Syrupi senegæ,
 Syrupi pruni virginianæ,
 Syrupi acaciæ āā ʒ i.
 Olei morrhuæ ʒ iiij.

Dissolve and mix. Dose, one and one-half teaspoonfuls every three hours.

—T. H. HOLGATE.

When fever subsides :

℞ Ammonii chloridi gr. xxxvi.
 Syr. ipecacuanhæ ʒ iss.
 Syr. scillæ ʒ ss.
 Syr. tolutani ʒ i.
 Aq. menthæ piperitæ q.s. ad ʒ iiij.

M. S. ʒ i. at a dose.

—POWELL.

℞ Vini antimonii ʒ ij.
 Liq. ammonii acetatis ʒ i.
 Syr. tolutani ʒ vi.
 Aquæ ʒ iv.

M. S. Teaspoonful to a dessertspoonful every four hours.

When the symptoms are only slight :

℞ Ammonii muriatis gr. x.
 Spt. chloroformi ℥ xx.
 Vini antimonii ℥ x.
 Aquæ camphoræ ad ʒ i.

M. S. Dose to be taken every four to six hours.

—FENWICK.

℞ Ammonii chloridi,
 Potassii chloratis āā gr. xxx.
 Syr. senegæ ʒ iv.
 Syr. ipecacuanhæ ʒ iiij.
 Syr. tolutani ʒ v.
 Extr. glycyrrhizæ ʒ i.
 Aquæ cinnamomi q.s. ad ʒ iv.

M. S. A teaspoonful.

—G. H. BOSLEY.

℞ Tinct. aconiti gtt. xij.
 Syr. ipecacuanhæ ʒ ss.-i.
 Liq. potassii citratis.. q.s. ad ʒ iiij.

M. S. ʒ i. every three hours.

With difficult expectoration: caffeine 0.30 cgm. at bed-time, and during the day citrate or acetate of potassium every four hours in dose of 1.20 gm. to 1.80 gm.—EDGEWORTH.

℞ Pulv. ipecacuanhæ et opii 2.0
 Sodii bicarbonatis 4.0

M. ft. chart. No. x. Sig. One t.i.d.

—NEUSSER.

℞ Heroin gr. $\frac{1}{16}$
 Ammon. hypophos. gr. iiij.
 Hyoscyami gr. i.
 Pin. alb. cort. gr. iiiss.
 Bals. toltutan. gr. $\frac{1}{2}$
 Glycerini puri ʒ i.

M. S. For dose.

Balsamic pills :

℞ Terpin 0.05 cgm.
 Sodii benzoat 0.10 "
 Picis veg. q.s.

M. For one pill. Make forty. S. Take ten daily.

—DELESQUELLE.

Or—

℞ Tinct. veratri viridis..... ℥ xij.
 Syr. scillæ comp..... 3 ij.
 Syr. tolutani..... ℥ xiv.

M. S. 3 i. every two or three hours.

—J. LEWIS SMITH.

Or—

℞ Potassii citratis 3 i.
 Syr. ipecacuanhæ..... 3 i.-ij.
 Tinct. opii camphoratæ..... 3 i.-ij.
 Syrupi ʒ ss.
 Aquæ q.s. ad ʒ iij.

M. S. Teaspoonful every two or three hours.

—MEIGS AND PEPPER.

Caution.—Balsamics should not be used in the acute stage of bronchitis, as they can at this period only irritate the already inflamed mucous membranes. Congestion of the respiratory passages has often been seen to follow a too free administration of syrup of tolu.—GINGEOT.

In the treatment of acute bronchitis in children give warm baths, whenever the rectal temperature, taken every three hours, exceeds 102° F., the temperature of the bath to be 101.5° F., and the duration seven or eight minutes. Stimulants may be given if required during the bath, and water at the temperature of the room is to be applied to the head. Quinine sulphate as a general tonic.—RENAUT.

℞ Oxymel. scillæ..... 3 ss.
 Spt. ætheris nitrosi,
 Tinct. camph. comp āā 3 i.
 Mist. amygdal..... ad ʒ i.

M. S. Dose to be taken every six hours.

In children in the febrile stage :

℞ Vini ipecacuanhæ 3 iss.
 Syr. simplicis ʒ ss.
 Tinct. camph. comp..... 3 iij.
 Liq. ammonii citratis ʒ ss.
 Aquæ..... ad ʒ ij.

M. S. 3 i. every two hours.

—CHARTERIS.

A stimulating expectorant in a child of twelve months :

℞ Ammonii carbonatis..... gr. xvi.
 Spirit. ætheris composit..... 3 iss.
 Syrupi tolutani,
 Aquæāā 3 i.

M. S. A teaspoonful every two hours.

—J. M. DA COSTA.

To diminish secretion and lessen the severity and frequency of cough :

℞ Phenocol..... gr. xv.-xxx.
 Camphor monobromate..... gr. ij.
 Caffeine citrate..... gr. ij.

Mix and make twelve powders. S. One every four hours.

—DILLON BROWN.

Warm baths, 100° F., of seven or eight minutes' duration.

In bronchitis in children I have had signal success with the following, in addition to diet and hygienic procedures:

℞ Powdered ipecac,
 Tartar emeticāā gr. 100

—H. E. TULEY.

In infancy, if the stomach is loaded with partially digested food:

℞ Pulv. ipecacuanhæ gr. i.-ij.
 Syr. ipecacuanhæ 3 i.

M. S. Teaspoonful every few minutes until emesis.

If secretion becomes very profuse :

℞ Antimonii oxidi gr. ss.
 Syr. senegæ..... 3 i.
 Syr. acaciæ 3 iiij.

M. S. Teaspoonful every two hours.

—PERRIER.

To apply to the chest :

℞ Oil of cloves..... 3 ij.
 Camphorated oil..... 3 ix.

—J. LEWIS SMITH.

Bronchitis, Chronic.

Chronic bronchial catarrh presents a troublesome cough of cold weather, usually worse at night or in the early morning, with expectoration of either muco-purulent or purulent sputum, which may resemble that of phthisis. Though expectoration is usually scanty, a condition of bronchorrhœa may be set up. If developing as a consequence of systemic, gouty, rheumatic, or nephritic states, the symptoms will vary somewhat with the severity of the underlying disorder. As a rule, the clear percussion note, the diffuse moist and dry râles heard, and the persistent cough following an acute bronchitis or one of the exanthemata, or occurring as a complication of a severe constitutional disorder, make the diagnosis clear.

DIFFERENTIATION.—Phthisis is excluded by the physical signs being more pronounced near the angle of the scapula and not at the apex. Tubercle bacilli are also absent. Mucous râles are more abundant in the chronic than in the acute forms. There is lack of fever, and emphysema, which is more frequently found in association with bronchitis, gives its characteristic signs. The respiratory murmur is roughened and the percussion note clear. The cough is distinguished from that produced in aneurisms by the absence of stridulous breathing, but the possibility of tumor pressure as a cause of long-continued cough must be kept in mind.

Here a dilated bronchus must not deceive one into believing in the presence of cavity.

PROGNOSIS.—The course is long, without notable impairment of health. There are exacerbations, or it may persist during the summer season.

TREATMENT.—*Prophylaxis*.—Chronic bronchitis associated with asthmatic attacks in elderly persons may be prevented by avoiding stimulants, too hearty meals, and too large a quantity of farinaceous food, which sets up fermentation. The last meal

at night should be light and easily digestible. Malted food and those containing diastase seem especially advantageous.

Eucalyptol, ten minims in emulsion every four hours.—

BRAINERD.

Extract coccillanæ fluid., ℥v.–xxv., as required.—WILCOX.

Surgical treatment is required when chronic bronchitis in children is due, as it frequently is, to adenoids in the nasopharynx. The tonsils are to be ablated, the adenoids destroyed, and granulations scraped and burned away.—CHAUMIER.

℞ Phenol salicylate..... 3 i.
Terpin hydrate 3 i.
Codeine sulphate..... gr. ij.

M. Make twenty capsules or pills. Dose, one every four hours.

—SOLIS-COHEN.

℞ Morphinæ hydrochloratis..... gr. v.
Extracti hyoscyami..... gr. viij.
Rad. belladonnæ pulv.,
Rad. glycyrrhizæ pulv.,
Mellis..... āā gr. xiv.
Balsam. toluatani,
Ol. theobromæ..... āā gr. lxxv.

M. ft. pil. div. No. c. S. One every five or six hours.

—RICORD.

℞ Potassium citrate..... ʒ ss.
Lemon juice ʒ i.
Syrup of ipecac ʒ ij.
Water ad ʒ iij.

M. S. One-half ounce four or six times a day for an adult.

—H. C. WOOD.

℞ Ext. euphorbiæ piluliferæ..... ʒ iss.
Syrupi pruni virginianæ..... ʒ iiss.

S. Teaspoonful every three hours.

—H. G. McCORMACK.

℞ Creosote ʒ ij.
Almond soap..... q.s.

M. ft. pil. No. lxxx. S. Eight or ten daily.

This is more satisfactory than creosoted wine.

If pulmonary congestion be marked :

℞ Ergotini..... gr. v.
Pulv. opii gr. i.–ij.
Ext. hyoscyami..... gr. ʒ
Ol. theobromæ..... q.s

M. ft. supposit. S. Introduce into rectum each night.

—LYON.

Arsenical waters.—PAUL.

In the catarrhal form, sulphurous waters.

Caution.—Since the tendency of sulphur is to congest the bronchial lining membrane, these should be ordered only in the declining periods when secretions are tenacious.

Copaiba gives the best results if one can get the patient to take it—often accomplished if given in capsules—but next in value is oil of eucalyptus, \mathfrak{m} v.–x. *ter die*, on sugar.—POTTER.

In very chronic cases :

\mathfrak{R} Ext. hydrastis Canadensis..... \mathfrak{m} xx.–xxx.
Four times daily.

—SANGER.

In bronchitis of the aged :

\mathfrak{R} Benzoic acid gr. ivss.
Tannic acid gr. ii $\frac{1}{2}$.
M. For one cachet. S. Take four or five such cachets per diem.

—MARAGLIANO.

For irritative coughs :

\mathfrak{R} Phenacetin gr. xx.–xl.
Ext. glycyrrhizæ gr. xx.
Sacch. albi 3 ij.
Fiat pulvis, in chartulas 20 dividendus. S. One to be taken at one, two, or three hours' intervals.

For the same of more obstinate character :

\mathfrak{R} Phenacetin gr. l.
Ext. glycyrrhizæ gr. xx.
Codeinæ sulphatis gr. ij.–iv.
Sacch. albi 3 ij.
Fiat pulvis, in chartulas 20 dividendus. S. One to be taken every two, three, or four hours.

—CROOK.

Or—

\mathfrak{R} Ammonii carbonatis..... 3 ij.
Acidi salicylici..... 3 iiss.
Aquæ cinnamomi..... ad $\frac{3}{4}$ ij.
M. S. Teaspoonful in a little water every three hours.

—SLACK.

℞ Potassii iodidi 3 iij.
 Tinct. toluatanæ,
 Ext. pruni virginianæ āā 3 i.
 Syrupi 3 i.
 Spt. ætheris comp. 3 iij.
 Aquæ q.s. ad 3 iv.
 M. S. A teaspoonful.

—E. G. JANEWAY.

℞ Ammonii carbonatis gr. l.
 Potassii iodidi 3 iij.
 Syr. pruni virginianæ,
 Spt. ætheris comp. āā 3 iss.
 M. S. A teaspoonful.

℞ Apomorphinæ hydrochloratis gr. ss.
 Syr. pruni virginianæ 3 iij.
 Syr. picis liquidæ 3 iv.
 M. S. Tablespoonful three times a day.

—MURRELL.

Or—

℞ Acidi carbolicæ gr. xxv.
 Tinct. opii camphoratæ 3 iij.
 M. S. A drachm added to one-half pint of hot water in the inhaler. Use three times a day.

—N. S. DAVIS.

℞ Potassii iodidi 3 i.
 Tinct. nucis vomicæ,
 Tinct. sanguinarie āā 3 iij.
 Glycerini 3 i.
 Aquæ 3 v.
 M. S. Tablespoonful four times a day.

—DELAFFELD.

Or—

℞ Acidi hydrocyanici diluti,
 Chloroformi purificati āā 3 i.
 Tinct. hyoscyami,
 Syrupi toluatani,
 Aquæ camphoræ,
 Mucilaginis acaciæ āā 3 i.
 M. S. A teaspoonful.

—W. H. KATZENBACH.

℞ Quininæ sulphatis gr. vi.
 Acidi sulphurici dil. gtt. xij.
 Syr. simplicis 3 ss.
 Aquæ ... q.s. ad 3 iij.
 M. S. Teaspoonful every two hours.

—MEIGS AND PEPPER.

In bronchorrhœa, ergot, hyoscyamus, and arsenic in full dose.—LYON.

In chronic bronchitis with excessive muco-purulent expectoration, tincture of nux vomica, ℥x.-xx.—DELAFIELD.

In putrid bronchitis :

- ℞ Argenti nitratis 5
- Aquæ destillatæ..... 100

M. S. Inject into the trachea one to two cubic centimetres.

This amount does not produce excessive cough.—ROSENFELD.

Or—

- ℞ Hyposulphite of sodium 15 gm.
- Distilled water..... 60 “
- Simple syrup..... 25 “

Dessertspoonful every three hours.

—POLLI.

Or—

Inhalations of oxygen. Injections of eucalyptol (subcutaneously).—LYON.

- ℞ Ol. santali gtt. v.
- Four times daily.

—DA COSTA.

In fetid bronchitis :

- ℞ Sodii hyposulphatis..... 4 gm.
- Mucil. acaciæ..... 20 “
- Syr. eucalypti 40 “

By the mouth.

At the same time give by the rectum to avoid stomach intolerance:

- ℞ Sodium hyposulphite..... 10 gm.
- Laudanum (Sydenham's)..... 6 gtt.
- Distilled water..... 180 gm.

Large doses are not to be feared.—G. LYON.

- ℞ Acidi carbolici 0.5
- Ichthyolis..... 5
- Spiritus vini 10
- Aquæ destillatæ..... 100

S. Use as inhalation.

—NEUSSER.

℞ Spt. terebinthinæ..... ℥ xxx.
 Picis liquidæ..... ℥ xxx.
 Bala. tolutani..... 3 iss.
 Sodii benzoati..... q.s.
 M. et ft. pil. No. lxxx. S. One six or eight times daily. —LYON.

Or sodium hyposulphite, 3 ii.—3 iii. as daily dose.

Caution.—Contraindicated when there is tendency to hæmoptysis, as in phthisis.—DUMAS.

℞ Spt. chloroformi..... ℥ xx.
 Acidi hydrobromici..... 3 ss.
 Syr. scillæ..... 3 i.
 Aquæ..... q.s. ad 3 i.
 M. S. For one dose, three times a day. —FOTHERGILL.

In subacute bronchitis :

℞ Ammon. carb..... gr. xl.
 Ammon. iodid..... 3 ss.
 Ext. scillæ fld.,
 Ext. senegæ fld. ãã 3 i.
 Tinct. opii. camph..... 3 vi.
 Aquæ..... 3 i.
 Syr. pruni virginianæ..... ad 3 iv.
 M. S. 3 i. in water every three hours. —TUFFS.

℞ Acidi benzoici..... gr. ix.
 Tannin..... gr. ivss.
 M. et div. in chta. No. xl. S. Four to be taken daily.

℞ Strych. sulphat. gr. ss.
 Codeinæ..... gr. ij.
 Terpin. hydrat..... gr. xxiv.
 Guaiacol carbon..... gr. xl.
 M. ft. caps. No. xii. S. One every three hours.

When associated with emphysema and asthmatic attacks :

℞ Bromoform..... 0.50 cgm.
 In a capsule four or six times daily. —STEPP.

Chronic bronchitis with asthmatical condition :

℞ Ammonium chloride..... 3 iij.
 Fluid extract grindelia,
 Fluid extract quebracho,
 Fluid extract lobelia ãã 3 ss.
 Comp. licorice mixture..... 3 iss.
 M. S. The mixture is to be well shaken and a teaspoonful administered every three hours. —FISHER.

Bronchitis with difficulty in coughing up secretions :

℞ Ol. terebinthinæ 3 ij.-iiij.
 Mucil. acaciæ q.s.
 Aq. cinnamomi 3 i.
 Aquæ q.s. ad 3 vi.

M. S. A tablespoonful in a little water every four hours.

Or—

℞ Potassii iodidi 3 ij.
 Ammonii carbonatis 3 i.
 Tinct. lobeliæ 3 ij.
 Spts. chloroformi 3 iv.
 Vini ipecacuanhæ 3 i.
 Inf. senegæ q.s. ad 3 vi.

M. S. A tablespoonful in a wineglass of water every four hours.

Emphysema and asthma :

℞ Morphinae sulphatis gr. ʒ
 Potassii iodidi gr. v.
 Tinct. belladonnæ ℥ v.
 Spiritus ætheris composit ℥ xlv.
 Aquæ q.s. ad 3 ij.

Dose, 3 ij.

—Roosevelt Hospital Formulary.

Inhalations :

℞ Acidi carbolici fluidi ℥ x.-xv.
 Aquæ Oss.

M. S. To be placed in an ordinary inhaling-bottle and used three or four times a day.

—MEIGS.

℞ Acidi carbolici fluidi gtt. xv.-xx.
 Tinct. conii 3 i.-ij.
 Aquæ destillatæ O ij.

M. S. For inhalation.

—ALFRED STILLÉ.

℞ Acidi tannici gr. iiij.
 Ext. hyoseyami gr. ij.
 Aquæ destillatæ 3 i.

M. S. To be inhaled night and morning.

—BEIGEL.

When there is much dyspnoea, with tenacious sputa, spray the throat with wine of ipecac, pure or diluted with water, for ten minutes three or four times daily.—ARTHUR DAVIES.

In tracheitis, inhalations of peppermint essence, menthol, etc.

If secretion is very abundant, inhalations of a five-per-cent alum or tannin solution. Or—

℞ Zinci sulphatis..... 1
Aq. destillatæ..... 100
—NEUSSER.

In children :

℞ Aluminis..... 3 ss.
Vini ipecacuanhæ..... 3 iss.
Syr. tolutani 3 ss.
Aquæq.s. ad 3 iij.
M. S. 3 i.-ij. every three hours.
—POWELL.

℞ Tinct. scillæ..... ℥ xv.
Spt. ætheris nitrosi..... 3 i.
Liq. ammonii acetatis..... 3 i.
Tinct. hyoscyami..... 3 ss.
Aquæ camphoræad 3 i.
M. S. Taken three times a day.
—GEORGE ST. GEORGE.

℞ Spiritus terebinthinæ..... 3 iij.
Acidi acetici 3 ss.
Vitelli ovi..... No. i.
Aquæ rosæ 3 iiss.
Olei limonis..... 3 i.

M. S. To be rubbed, morning and evening, over the chest, back, and sides of neck.

—*Meath Hospital, Dublin.*

℞ Vini ipecacuanhæ,
Acidi nitromuriatici diluti.....āā ℥ x.
Tinct. hyoscyami..... ℥ xx.
Tinct. gentianæ compositæ..... 3 ij.
M. S. For one dose. Take in water thrice daily.
—GREENHOW.

℞ Potassii iodidi..... 3 iij.
Tinct. opii camphoratæ..... 3 ss.
Decocti senegæ..... 3 iv.
Syr. tolutani 3 iss.
M. S. Two teaspoonfuls a day.
—WILLIAM STOKES.

℞ Potassii nitratis..... gr. i.
Spiritus ætheris nitrosi,
Syrupi ipecacuanhæāā ℥ xxx.
Syrupi pruni virginianæ 3 ij.
Aquæq.s. ad 3 i.
M. S. A teaspoonful.
—A. R. ROBINSON.

Exclude rickets, adenoids, hypertrophic rhinitis; give cod-liver oil, arsenic, bitter tonics.

Bronchitis, Capillary.

This suffocative catarrh of infancy and old age is diagnosed by the signs of inflammation extending to the smaller bronchi, distributed over extensive areas on both sides, and attended with signs of suffocation from badly aerated blood. There is beside an anxious expression other evidence of a more severe affection than ordinary bronchitis, or even of broncho-pneumonia. It may be primary, or gradually succeed a bronchial catarrh.

DIAGNOSIS.—In infants extreme dyspnoea with rapid superficial inspiration and difficult expiration is rather distinctive. The *alæ nasi* are widely dilated and there is difficulty in nursing, while with each inspiration there is a recession of the soft parts over the chest wall. The cry is moderate, peevish, and muffled. The temperature may reach as high a point as 104° F., and this is distinguished from the fever of pneumonia by the fact of its not remaining long at so high a point.

Very often the temperature is of a distinctly remittent type, a morning temperature of 99° to 100° F., and an evening temperature of 104°–105° F.—DELAFIELD.

Chills may precede the fever.

DIFFERENTIATION.—In broncho-pneumonia which runs a slower course, râles are sometimes confined to one lung, but there is greater prostration and greater severity of all symptoms present.

Chills do not mark the invasion of a broncho- as they do of a lobar pneumonia.—DELAFIELD.

Broncho-pneumonia, however, may develop during the bronchitis of measles and whooping-cough; and small areas of consolidation are difficult to map out by percussion, because of the resonance produced by the surrounding lung tissue.

From bronchitis by the paroxysms of cough, which come oftener and are more severe, and by the whistling râles of high

pitch along with fine moist râles, especially low down behind. There is also greater tendency to prostration. The further differentiation will be found under broncho-pneumonia.

PROGNOSIS.—If cyanosis, apathy, and stupor supervene suddenly, and especially if convulsions occur, most active measures are required to prevent a fatal termination. In children there is coma after a convulsion; in the aged without the latter.

TREATMENT.—

R Vini antimonialis,
 Spiritus chloroformi..... \mathfrak{ss} 3 iv.
 Spiritus ammoniæ arom \mathfrak{z} i.
 Liquoris ammonii acetatis..... \mathfrak{z} ij.
 Aquæ.....q.s. ad \mathfrak{z} viij.
M. S. A tablespoonful every two hours.

—WHITLA.

R Tinct. digitalis..... \mathfrak{m} viij.
 Tinct. opii camphoratæ 3 i.
 Syr. ipecacuanhæ \mathfrak{m} xxx.
 Syr. toluianæ.....ad \mathfrak{z} ij.
Dose, 3 i. every three hours.

—KOPLIK.

When surface is pale and cool, and child is languid :

R Liq. ammonii acetatis \mathfrak{z} ss.
 Syr. ipecacuanhæ 3 i.
 Liq. morphinæ sulphatis (gr. i.— \mathfrak{z} i.)..... \mathfrak{m} xl.
 Syr. acaciæ..... \mathfrak{z} i.
 Aquæ..... \mathfrak{z} iss.
M. S. Teaspoonful every two hours. For a child of two years.

—MEIGS AND PEPPER.

R Ext. serpentariæ..... \mathfrak{z} ss.
 Ammonii carbonatis..... 3 ij.
 Syr. toluiani..... \mathfrak{z} iss.
M. S. Teaspoonful every two to four hours.

—POTTER.

In children :

R Ammonii carbonatis..... gr. xxiv.
 Syr. toluiani 3 vi.
 Spt. vini gallici 3 iij.
 Syr. senegæ 3 iiss.
 Syr. acaciæq.s. ad \mathfrak{z} iij.
M. S. 3 i. every three hours.

—POWELL.

Or—

℞ Moschi.....	0.10
Tinct. opii camphoratæ.....	5
Syr. tolutani	15
Aquæ aurantii florum	60

M. S. Teaspoonful.

—DESCROIZILLES.

In extreme excitation :

℞ Chloral.....	0.50
Tinct. moschi	20 gtt.
Aquæ	60

As an enema.

—SIMON.

Caution.—Musk is dangerous in its effect on children.

In adynamia and asphyxia, brandy by the mouth. Mustard to the legs. Wool jacket.

Ether and caffeine alternately by hypodermic. Camphor in sterilized olive oil by hypodermic.

In intense pulmonary congestion, tepid mustard bath or “mustard pack;” *i.e.*, wrap around the chest cloths which have been dipped into mustard. Remove in twenty minutes or one-half hour.

In suffocative form, stimulants and emetics. Lukewarm bath followed by cold douche. Watch child. Be careful of collapse.—HEUBNER.

In tropical variety with great debility, quinine.—MEIGS AND PEPPER.

Bronchitis, Plastic.

Fibrinous bronchitis may be diagnosticated when fibrinous casts of bronchi or shreds of membrane are coughed up. Hæmoptysis, or expectoration streaked with blood, is frequently present in these rare cases.

The acute form is especially rare and frequently fatal, while the chronic may affect the health but little.

There may be entire absence of respiratory signs over the

affected lung area, while the percussion note remains clear and pulmonary.—LEUBE.

DIFFERENTIATION.—In the young a one-sided lack of respiratory sounds, especially if not preceded by catarrhal symptoms, might be considered due to bronchial obstruction by a foreign body.

PROGNOSIS is relatively favorable in uncomplicated cases.

TREATMENT.—Inhalation of medicated steam and sprays, especially of alkaline solutions; lime water. Or—

℞ Sodii bicarb. gr. xxx.
 Aquæ ℥ i.
 —TYSON.

℞ Potassii iodidi 1
 Aquæ fontis 180
 Syrupi corticis aurantii 15
 S. To be taken during the day.

—NEUSSER.

After the casts have loosened, expectorants. The best is:

℞ Apomorphinæ gr. $\frac{1}{16}$ – $\frac{1}{8}$

By subcutaneous injection.—MASON.

In the intervals, potassium iodide, tonics, and general measures.

A course of inunctions with mercurial ointment has occasionally proved of service.—STRÜMPPELL.

Caisson Disease.

Workers in tunnels, caissons, or air-tight chambers, who support from thirty to fifty pounds to every square inch of their body surface instead of the normal atmospheric pressure of half this amount or less, may suffer from a compressed-air illness.

DIAGNOSIS.—Paraplegia or other paralysis following pain in the legs in those with a history of being subjected to the above conditions could scarcely be mistaken for other affections. Pains are mostly about the knees and may prevent use of limbs.

Cystitis is a frequent complication, auditory vertigo an occasional one.

PROGNOSIS is usually good. Symptoms may persist from a few days to several months, or death may follow symptoms of myelitis.

Prophylaxis requires that in passing from the lower to the higher, pressure five minutes' time should be consumed by divers.—A. H. SMITH.

TREATMENT.—Morphine or other measures to relieve pain. Stimulating liniments.

For cases seen early, "recompression" in a medical air-lock, constructed from a boiler divided by a diaphragm, with an outer and inner door, so that patient can enter without lowering the pressure. The pressure is rapidly raised until pain or other symptoms are alleviated.—E. H. SNELL.

Cancer of Bowel.

The symptoms are those of obstruction. It is only in the advanced stages that a tumor can be palpated. In elderly subjects acute obstruction should lead to exploration per rectum. In a recent instance of cancer of the duodenum reported by Czyan, the following points led to the diagnosis: 1. The high nitrogen excretion. 2. The great dilatation of the stomach pointed to obstruction near the pylorus. 3. The free and combined hydrochloric acid in the stomach contents made it probable that the stomach was not involved. 4. A splashing between the tumor and the liver pointed to an origin in the intestine. 5. The absence of leucin, tyrosin, and bile from the stomach contents, and the absence of icterus, made it likely that the situation was between the pylorus and the ductus choledochus.

In inoperable cancer of the rectum :

- R Naphthol 0.10-0.20
- Aquæ... 100
- S. To wash out the intestines.

Give salol or benzonaphthol with bicarbonate of sodium by the mouth. The diet should be chiefly vegetable.—DUJARDIN-BEAUMETZ.

To relieve pain and straining of intestinal cancer, enemata of water.—RINGER.

X-rays may be tried.

Cancer of Breast.

The early diagnosis is alone of interest to us here. The onset is insidious, and, unfortunately for the success of treatment, patients usually delay too long before seeking advice.

DIAGNOSIS.—There may be little or no pain. If it exists at all it is of neuralgic character.

If a small nodule is painful, it is more likely to be fibrous than cancerous.—DOWD.

The swelling is of extreme hardness, and firmly embedded in the breast tissues, not movable upon them. The skin is not reddened in the early stages, but may resemble that of a scalded pig. If the nipple is puckered in, it is a sign of value unless such is the natural condition in the patient. Hardness about the areola confirms the danger sign. If outlying glands are enlarged, this is an additional sign of value, but not finding them so is no proof of the benign character of the growth.

DIFFERENTIATION.—The great majority of breast tumors are carcinomatous; sarcoma, cysts, and the various forms of adenoma form but about seventeen per cent.

Adenoma is of slow growth, and may have been several years in developing. The tumor is movable, the nipple is not retracted, and the axillary glands are not involved.

Adeno-fibroma gives a defined outline and is not adherent to the skin.

Adeno-cystoma may suddenly enlarge, cause skin ulceration, and a fungoid mass may protrude, but the margins are not hard and infiltrated, nor do glands become involved in the same way as in cancer.

Adeno-sarcoma is elastic but of unequal consistence and nodular; the skin is not attached; growth is rapid, without involvement of axillary glands.

Sarcomata may feel almost fluctuating. The overlying veins are enlarged at an early stage, but the skin is not attached. They occur earlier in life than carcinomata, are movable and not fixed to the chest wall; the nipple is not drawn in; pain is severe. The skin does not become infiltrated even when fungating masses protrude in a later stage.

PROGNOSIS.—Nothing short of very early and very complete operation gives a chance of recovery.

TREATMENT.—Surgical.—Radical removal of breast, together with the involved axillary and subclavicular glands.

In ulcerative stage, to check offensive odor:

R Potassii permanganatis..... gr. xl.
Aquaë..... Oi.
M. S. Apply as a lotion.

Or—

R Acidi carbolici..... 5
Aquaë camphoræ..... 80
Aquaë..... 100
M. S. Apply as a lotion.

In resulting cachectic state :

R Syrupi ferri et mangani iodidi ʒ iv.
M. S. Teaspoonful three times a day.

—BARTHOLOW.

Roentgen rays have been successfully employed.

Cancer of the Pancreas.

The symptoms are variable; there is usually deep-seated epigastric pain with anorexia, nausea, vomiting, and emaciation; there may be jaundice with light-colored fatty, offensive stools; and glycosuria is frequently present.

DIFFERENTIATION.—When attacking the head of the pancreas, it is not to be distinguished from carcinoma of the bile ducts.

From impacted gall stone it is distinguished by the jaundice being deeper.

TREATMENT by drugs is only palliative. Use *x*-rays.

Cancer of Skin.

Epithelioma on the skin surface of the face, beginning usually as a small warty growth, papule, or pimple, which is scratched or irritated and subsequently becomes ulcerated, is distinguished from lupus by the sinuous and slightly elevated border, of waxy appearance and firm feel. The subject's age is greater, while in both the progress is slow. The situation is usually upon the nose, between the nose and the eye, or upon the lip, forehead, scrotum, penis, back of hand, etc.

Syphilitic ulcer has no indurated raised border; the surface of the base is more rough, the course more rapid, and adequate internal treatment should produce rapid improvement.

Chancre may at times closely resemble epitheliomatous ulceration.

TREATMENT.—Wide excision is unquestionably the best treatment for growths favorably situated for operation. Many are inoperable by reason of location, or because of repeated return after operation, or for the reason that the patient will not consent to the use of the knife. In these, properly applied caustics will cure. Electrolysis has at times its advantages.

In inoperable epithelioma of the face:

Potato poultice, containing 1 to 100 solution of corrosive sublimate, to soften crusts, etc. Remove loosened tissues with galvano-cautery and apply:

℞ Methylene blue..... gr. xv.
 Alcohol,
 Glycerin.....āā ℥ lxxv.
 M.

Touch stained parts with chromic-acid solution; reapply the blue solution. Dress with compresses wet with sublimate solution. Repeat every two or three days.—DU CASTEL.

A *paste* of the consistence of butter, made with arsenious acid and powdered gum acacia mixed with water, is our most valuable agent. The strength should vary according to the case—never weaker than equal parts and never stronger than two of acid to one of acacia.—A. R. ROBINSON.

In cutaneous epithelioma the best paste we have at present is that of Bougard:

R Wheat flour.....	60	gm.
Starch	60	"
Arsenious acid.....	1	"
Red sulphide of mercury (cinnabar)	5	"
Chloride of ammonium	5	"
Corrosive sublimate.....	0.50	"
Solution of chloride of zinc at 52°.....	245	"

M.

The first six substances are separately ground and reduced to fine powder. They are then mixed in a mortar of glass or china, and the solution of chloride of zinc is slowly poured in while the contents are kept rapidly moving with the pestle, so that no lump shall be formed. A thick layer of this is spread on cotton and left in position twenty-four hours, and then managed in every way as Marsden's paste.—DANIEL LEWIS.

In superficial cancer without ganglionic involvement:

R Acidi arsenosi	1 gm.
Alcoholis (ethylici),	
Aquæ destill	℥ 75 "

M. S. Paint the surface once daily. As the eschar thickens increase the strength to 1 in 40 of each.

—CERNY AND TRUNEČEK.

Escharotic paste:

R Wheat flour.....	℥ viij.
Starch.....	℥ ij.
Corrosive sublimate.....	gr. xx.
Pure iodol,	
Croton chloral,	
Bromide of camphor,	
Crystal carbolic acid.....	℥ 3 liiss.
Oxide of zinc.....	℥ viij.
Water, enough to make a homogeneous mass of the consistence of putty.	

—FELIX.

Marsden's paste :

℞ Acidi arsenosi,

Pulveris acaciæ.....āā p.æ.

Mix with a few drops of water to form a paste at the time of application.

Marsden's paste (modified) :

℞ Acidi arsenosi..... 3 ij.

Pulveris gummi arabici..... 3 i.

Cocainæ hydrochloratis..... gr. xvij.

M.

My own modification :

℞ Acidi arsenosi,

Orthoform āā 3 i.

To be made into a paste of the consistence of rich cream or butter by adding water. Apply on a small piece of cloth, which is left on from eighteen to thirty-six hours, and repeated if necessary.

Caustics :

℞ Zinci chloridi..... 1

Pulveris althææ radici..... 2

Aquæ q.s.

M.

℞ Chloride of zinc..... 1-2.

Flour..... 5

M. Make caustic arrows to be inserted into base of tumor.

—BARTHOLOW.

Canquoin's paste :

℞ Zinci chloridi,

Farinæ..... āā p.æ.

Mix with water.

Vienna paste : Potassa cum calce.—U. S. P.

Areas of limited extent and those too near the eye for caustics can be operated upon with advantage by electrolysis.

As a local application in inoperable cancer, antipyrin dusted over the surface.—BAHNSON.

℞ Extracti chelidonii,

Aquæ destillatæ,

Glycerini..... āā 20

Spiritus chloroformi 0.2

M. S. Inject a syringeful into the tumor at different points near the border.

Internally, chelidonium in aqueous solution, gm. i.—v. daily.
—DENICEUCO.

In inoperable cancer, injections of alcohol into and about the growth.—HASSE.

Or morphine, associated with cocaine, given in large doses for a long time, exercises a favorable and curative action upon carcinomatous neoplasms and retards recurrences.—SNOW.

To overcome the fetor of cancerous ulcers and alleviate the pain:

℞ Iodoformi 18 gm.
Quininæ sulphatis 8 "
Spiritus menthæ piperitæ..... 8 "
Carbo. ligni..... 15 "
M. S. Dust upon the ulcerated surface as required.

When much cachexia:

℞ Tincturæ ferri perchloridi,
Acidi phosphorici diluti.....℥℥ ℥ xv.
Aquæ ℥ ij.
M. S. At dose two or three times daily.

As gargle and wash in cancer of throat, tongue, fauces:

℞ Sodii boratis..... ℥ ss.
Glycerini ℥ ij.
Aquæ.....ad O iss.
M.

As an anodyne, giving equal relief to that from a larger dose of morphine:

℞ Extracti hyoscyami..... gr. iv.
Extracti conii gr. i.
Morphinæ hydrochloratis gr. ½
M. S. At dose.

—MARSDEN.

Caution.—When an active preparation is used gr. i. is the dose of extract of hyoscyamus.

Rodent ulcer.—Remove the crusts and rub in daily powdered resorcin.—BLOMFIELD.

In inoperable cancer and after operation the x-rays should be used.

Cancer of the Stomach.

Since gastric carcinoma may occur without symptoms, physical exploration becomes of the greatest importance in the early diagnosis of obscure cases, and since about forty per cent. of all instances of cancer occur in this region, the point need not be further insisted upon. We should not at the present day wait for the cachexia, œdema of the joints, enlargement of the glands, fissured tongue, emaciation, obstinate coffee-ground vomiting, insomnia, vertigo, and the presence of a tumor to be made out by palpation. While tumor is the only pathognomonic sign, it must not be waited for. In most instances after middle life, symptoms of chronic gastritis with increased pain after eating, frequent vomiting, and emaciation coming on after loss of appetite, point to this disease as a cause, especially if characteristic cachexia begins to show itself.

DIAGNOSIS.—Two periods here engage our attention: one before tumor is to be made out, when an early diagnosis may lead to early operation; the other when the time for operation has passed.

The chief factors are age, pain increased by taking food, anorexia, distaste for meat, dilatation, vomiting of fragments containing cancer cells and coffee-ground-like masses of altered blood. A “raw-beef” tongue may be a sign of value, especially in the diagnosis of doubtful instances in old age. Pruritus, anæmia, loss of weight, and insomnia are symptoms often present, especially in advanced cases late in life.

Clogging of the eye of the stomach tube by small masses of clotted blood is an indication of carcinoma.—EWALD.

A continued persistent absence of free hydrochloric acid is a sign of some diagnostic value; but the mere absence of acid without the concomitant symptoms cannot be depended upon to establish the diagnosis.—PEPPER.

The rapidly occurring muscular weakness of the stomach

and the high degree of its intensity, so that a light meal is not digested after six or seven hours, is, according to Huber, a strong point in favor of carcinoma.

This observer regards the frequent occurrence of the long threads of bacilli of Boas and Oppler as having no specific worth as a sign of carcinoma, since they are often absent in this disease and often present in benign stenosis of the pylorus.

If, however, lactic acid is shown to be abundantly present, it is a point of great value. To examine for it, a dilute solution of neutral ferric chloride may be added to the filtrate, causing it to turn to a canary-yellow color.

Uffelmann's reagent is prepared by adding two or three drops of pure carbolic acid to 20 c.c. of water containing a few drops of tincture of ferric chloride; the amethyst-blue solution which results from the thorough shaking of this mixture is so unstable that it must always be freshly prepared. The reagent is a delicate one, and even 0.1 per cent of lactic acid will give a distinct canary-yellow color in its presence.—MANGES.

There is ground for hoping that the *x*-rays may give material aid in early diagnosis of this most important affection. Dilatation of the superficial venules on each cheek, forming a wine-red discoloration, is an early valuable diagnostic point.—BOGDAN.

Gastric ulcer may precede carcinoma. Distention or true dilatation of the stomach favors the diagnosis of benign stenosis of the pylorus.—B. F. CURTIS.

DIFFERENTIATION.—Carcinoma of the pylorus is the form most readily diagnosticated, since the motor disturbances are here pronounced at an early stage. The difficulty is to distinguish cancer from other disease of the stomach. This can at times be accomplished early by the discovered entire absence of free hydrochloric acid (as shown by the Congo red, tropæolin, and other tests after a test meal of flour soup), and the presence of lactic acid. The chemical signs may long antedate the occurrence of a tumor which can be palpated.

The mere absence of hydrochloric acid is not in itself suffi-

ciently convincing, as it occurs in other gastric and general diseases.—BENNETT.

From ulcer of the stomach the fact that the epigastric pain is not relieved by vomiting as it is in ulcer, and that it is not so intense or so circumscribedly located, will help in the diagnosis. Besides, in stenosis from ulcer anachlorhydria is rare.

It is well to remember that the cancerous tumor may be simulated by an epiploic inflammation, by a fæcal mass, in the transverse colon, by subphrenic abscess, circumscribed peritonitis, etc., and that even partial contraction of the recti muscles may suggest a cancerous growth; gall stones and gall-bladder tumor, as well as pancreatic tumor, must be excluded. Progressive pernicious anæmia may be simulated by the symptoms when tumor is not to be felt.

Chronic catarrh of the stomach and enteroptosis are the conditions most likely to occasion error.—SCHULE.

If the stomach presumably empty in the morning constantly contains remnants of food from the previous day, and if we find lactic acid invariably present, and in addition numerous thread bacilli, we can almost positively diagnose the case as one of pyloric carcinoma.—BOAS.

Kelling's Modified Test.—Take the filtrate of the stomach contents and dilute it from ten to twenty times. Add two drops of a five-per-cent solution of ferric chloride. This will give a greenish-yellow color, showing lactic acid.

Strauss' Test.—This consists in filling a burette, graduated at 5 and 25 c.c. respectively, up to the 5 c.c. mark with the stomach filtrate, and adding sulphuric ether up to the mark 25; this is well shaken, and through a stopcock at the bottom the burette is emptied to 5 c.c. and again filled to 25 c.c. with distilled water. To this are added two drops of a ferric chloride solution (one to nine) and the whole is shaken. According to Strauss, if lactic acid up to one per cent is present, an intense green appears, and if the percentage is lower a pale green is noticeable.—AARON.

Iodide-of-Potassium Test.—When iodide of potassium is swallowed by a healthy person it can be detected in the saliva within ten or fifteen minutes; but when cancer exists, there will be no trace of the iodide until the lapse of an hour or an hour and a half.—LYMAN.

For test see under *poisoning* by iodine.

Boas' Meal Test.—A tablespoonful of oatmeal flour in a litre of water given at bedtime after thoroughly washing out the stomach. Withdraw the contents in the morning and examine for lactic acid.

Arnold's Test for Lactic Acid.—Solution No. 1, consisting of saturated alcoholic solution of gentian violet, 0.2 c.c.; distilled water, 500 c.c.

Solution No. 2, solution of ferric chloride (U. S. P., 1890), 5 c.c.; distilled water, 20 cc.

The method of applying the test is as follows: Into a small porcelain capsule place 1 c.c. of solution No. 1, and add from a pipette one drop of solution No. 2. The violet color of solution No. 1 changes to a bluish-violet after the addition of the ferric chloride. To this mixture add drop by drop the filtered gastric contents. If lactic acid is present, the color of the solution changes from a *bluish-violet* to a *green* or *greenish-yellow*.

Alcohol, glucose, butyric acid, acetic acid, and phosphates, in quantities below two per cent, do not interfere with the reaction as they do in Uffelmann's test. The reaction is not interfered with by acetone or albumoses; sulphuric, nitric, and hydrochloric acids do not give the reaction.

This, it is claimed, is more reliable than the Uffelmann test.

TREATMENT.—Early diagnosis may lead to the only cure, viz., early extirpation.

Most instances, however, require the physician's aid in combating symptoms as they arise in the course of inoperable growths. The diet should usually consist largely of vegetables, and especially peas, beans, lentils, etc.; tender game, gelati-

ous substances. Articles likely to cause fermentation, such as bread, cheese, sausage, should be excluded, as well as milk, when it is not well borne. As drink, good qualities of beer, malt extract, champagne diluted with carbonated water. To sharpen the appetite, give Condurango wines, or—

R Bark of white condurango..... 15 gm.
 Water 250 gm.

M. Boil down to 150 gm., filter, and add syrup. **S.** A dessertspoonful a quarter of an hour before eating.

To assist in artificial digestion in the stomach, give midway during the meal:

R Pepsin..... 0.5 gm.
 Maltin..... 0.1 "
 Pancreatin..... 0.1 "

M. **S.** For each dose.

To prevent vomiting :

R Picrotoxini 0.05 gm.
 Morphinae hydrochloratis..... 0.05 "
 Atropinae sulphatis (neutralis) 0.01 "
 Aquae laurocerasi 10 "

M. **S.** Five to eight drops at a dose.

—ROBIN.

For hæmatemesis, small pieces of ice swallowed and ice applied externally. Ergotin injected hypodermatically or ergotin internally:

R Tannini 1 gm.
 Pulveris opii..... 0.50 cgm.
 Pulveris cinnamomi..... 1 gm.

M. ft. chart. No. x. **S.** One every two hours.

R Ergotin gr. xxx.
 Gallic acid..... gr. viij.
 Turpentine..... ℥ v.
 Syrup..... ʒ iv.

M. **S.** A dessertspoonful to a tablespoonful every half-hour in broth.

R Ergotin..... gr. lxxv.
 Hydrochlorate of morphine..... gr. i.
 Antipyrin gr. xx.
 Sulphate of sparteine..... gr. iij.
 Sulphate of atropine gr. $\frac{1}{30}$
 Distilled water enough to make ʒ iij.

M.

Of this twenty minims may be deeply injected into one of the muscles of the back or chest, and if necessary the injection may be repeated in half an hour should the danger be pressing.—CAPITAN.

To control vomiting of mucus and food :

℞ Morphinæ hydrochloratis,
Cocainæ hydrochloratis.....āā 0.10 gm.
Aquæ laurocerasi 10 "
M. S. Five drops before each meal.

—HUCHARD.

In vomiting due to obstruction and with retention of food particles, wash out the stomach with chloride of sodium, one per cent; boric acid, two per cent; salicylic acid, 1 to 1,000; or naphthol, 1 to 1,000.

On awaking in the morning the following suppository:

℞ Pulveris opii..... 0.10 cgm.
Pulveris belladonnæ foliarum..... 0.02 "
Olei theobromatis..... q.s.
℞ Sodii iodidi gr. x.-xv.
Liquoris potassii arsenitis gtt. ij.-v.
M. S. After each meal.

In the absence of ulceration :

℞ Acidi hydrochlorici dil..... ʒ i.
M. S. Ten drops in half a glass of warm water after meals.

—LYMAN.

To retard cancer growth and delay death, begin opium before pain demands it. To withhold it till pain compels its use is simply barbarous.—H. SNOW.

Chlorate of sodium, 3 ij. to 3 iv., daily.—BRISSAUD.

Anticancerous serum.—RECLUS.

To diminish pain, increase appetite, stop vomiting and hæmatemesis :

℞ Sodii chloratis..... ʒ iiss.-ij.
Aquæ ʒ v.-vi.
To be taken in divided doses during the day.

Caution.—Gastric irritation is produced by larger doses than the above.

As a tonic :

- R** Extract of condurango..... 3 iij.
 Sulphate of strychnine gr. $\frac{1}{2}$
 Dilute hydrochloric acid 3 iij.
 Elixir of gentian..... $\frac{3}{4}$ vi.
M. S. A tablespoonful in a wineglassful of water through a tube after meals.

Sedative and antiseptic mixture :

- R** Cocainæ hydrochloratis..... gr. iv.
 Chloralis..... gr. xl.
 Aquæ menthæ piperitæ $\frac{3}{4}$ iss.
 Aquæ..... q.s. ad $\frac{3}{4}$ iij.
M. S. Tablespoonful every two hours.

—EWALD.

Lavage should be reserved for early cases and not be applied to the later stages, because of the danger of auto-infection.—COLLIGNON.

The results of treatment by the use of the mixed toxins of erysipelas and of the bacillus prodigiosus still continue to be satisfactory. The mixed unfiltered toxins made from cultures in the same medium, and sterilized by heat, are preferred. The injections should be made directly into the tumor whenever possible. The initial dose should be rarely more than half a minim. When the injections are given at a point remote from the tumor much larger doses could be tolerated. If no improvement is observed after three or four weeks of this treatment it is seldom advantageous to continue it.—W. B. COLEY.

Cancer of the Uterus.

The diagnosis is not usually very difficult after certain progress has been made, and especially when a non-operable point has been reached. Hemorrhage between the periods late in menstruating life and especially that occurring after normal menstruation has ceased should cause suspicion. Pus discharged from the cervix furnishes strong presumptive evidence.

A serous discharge in elderly women often has a serious meaning. Pain is a most unreliable symptom, though almost never wholly absent. An early diagnosis is frequently possible by microscopical examination of uterine scrapings.

DIFFERENTIATION.—Chronic cervical catarrh with hypertrophy, ectropium, retention cyst, etc., is most likely to cause mistake in diagnosis. Senile endometritis gives a fetid discharge which might lead to faulty conclusions.

Leucorrhœa moderate in amount, ill-smelling, accompanied by hemorrhage, suggests cancer of the corpus uteri.—MISH.

Foreign substances in the uterine cavity may even occasion purulent discharge, and polypus, when sloughing away, may strongly suggest malignant disease until exploration is made through a dilated cervix.

The less friable the tissues under the curette, the less likelihood is there of malignancy. A firm scrape will bring away a distinct piece of tissue in cancer, but will only cause bleeding in its absence.—SINCLAIR.

TREATMENT.—*As a palliative :*

- R Sodii chloratis 3 v.
 Syrupi aurantii florum..... 3 i.
 Aquæ destill 3 iiij.
 M. S. Tablespoonful twice, gradually increased to eight times daily.

Locally :

- R Sodii chloratis,
 Bismuthi subnitratis āā 3 iiss.
 Iodoformi 3 i.
 M. S. Apply on tampon.

—DUVRAC.

As a deodorizer :

- R Acidi salicylici gr. vi.
 Sodii salicylatis..... 3 iiij.
 Tincturæ eucalypti 3 vi.
 Aquæ destillatæ..... 3 vi.
 M. S. Three tablespoonfuls to a pin of water as an injection.

Or—

- R Carbolic acid..... gr. viij.
 Glycerin..... 3 viij
 Essence of thyme..... 3 iiij.
 M. S. A tablespoonful to two quarts of water.

To Control Bleeding.—Place patient in knee-chest position and pack the uterus with gauze containing some antiseptic powder.—N. G. BOZEMAN.

When the bladder is implicated and becomes perforated, carry out irrigation with clear or disinfecting water and drainage.—N. G. BOZEMAN.

Of the cervix uteri: Tampon with gauze impregnated with tannin, iodoform (ten per cent), and powdered quinine.—MAROCCO.

℞ Methylene blue,

Tannin ̃ ̃ 0.25 cgm.

Powdered opium..... 0.05 cgm.

Olive oil..... 15 gtt.

Cacao butter..... 4 gm.

M. S. For one suppository, to be introduced daily into the cervical canal and kept in place by means of a tampon.

Or—

℞ Tannin,

Iodoform ̃ ̃ 15

M. S. Apply with powder blower and then pack.

If much hemorrhage :

℞ Liq. ferri subsulphatis..... ̃ i.

Aquæ destillatæ..... ̃ iiij.

M. S. Inject into the uterus.

—BARNES.

℞ Extracti chelidonii,

Aquæ (or weak antiseptic solution)..... ̃ ̃ 50

M. S. Saturate cotton tampon and apply directly against cancer mass.

—FREUDENBERG.

Try x-rays.

Carbuncle.

Common anthrax in its early stage presents an infiltration of the skin quite similar to that of furuncle, but usually much more extensive, ranging from one hundred to four hundred millimetres in area. The tissue is firm and almost immovable, especially at the nucha, which is one of its most favorite sites.

DIAGNOSIS.—The extreme pain, fever, and possibly sopor or delirium accompanying the above local signs usually suffice.

DIFFERENTIATION.—The process being much the same as that occurring in furuncle, the distinction is to be made chiefly between these two affections. It is much larger in surface area, more diffusely flat, and is characterized by the occurrence of multiple openings through the skin surface instead of a single central opening as in the boil. The sieve-like openings also serve to distinguish it from other diffuse phlegmonous processes attended with suppuration, as well as the circumscribed brawny border of the former, which is not found in phlegmon.

PROGNOSIS.—Furuncular anthrax or carbuncle is a serious affection at all times, and may in any case produce symptoms of pyæmia or cerebral œdema, while diabetics or otherwise debilitated persons or those of advanced years make a guarded prognosis necessary.

TREATMENT.—Make crucial incisions, scrape with a sharp spoon, and cauterize with actual cautery; then pack with sterilized gauze moistened with a ten to twenty per cent solution of chloride of zinc, moisten the dressing as often as indicated, but do not employ oiled silk or other protective covering.

Stimulate the activity of the liver, and combine with internal antiseptics remedies calculated to arrest suppuration and relieve pain. Protect the parts from all irritation.—W. E. SHAW.

It has been claimed that an injection of ten drops of a six-per-cent solution of cocaine into the swelling will allay the inflammation and abort the process.

Avoid irritation, pressure, warmth, and moisture (as in poulticing), incisions, and stimulants. Apply the following ointment, spread one-third of an inch thick on the woolly side of lint:

R Extracti ergotæ fluidi	3 ij.
Zinci oxidi	3 ij.
Unguenti aquæ rosæ	3 ij.
M.	

Cover this with cotton batting and give sulphuret of calcium, gr. $\frac{1}{4}$, every two hours.

Occasionally, as required, the following laxative and refrigerant tonic:

℞ Magnesii sulphatis.....	3 iv.
Ferri sulphatis.....	3 i.
Acidi sulphurici dil.....	3 iiij.
Syrupi zingiberis.....	3 i.
Aquæ.....	ad 3 iiij.
M.	

—BULKLEY.

Apply ice most energetically and make deep incisions so as to open as many foci as possible.—KAPOSI.

Early incision, extending into the *surrounding healthy tissue*, one of the three manners of incision being employed, according to the situation and size of the anthrax.

After incision curettage. Then disinfection with a five-per-cent carbolic solution or a 1 in 1,000 sublimate solution.

Dressings of ten-per-cent iodol or xeroform gauze. Dressings to be changed morning and evening. Internally the following is given:

℞ Quininæ hydrochloratis,	
Pulveris glycyrrhizæ radicis	āā 4
Ext. glycyrrhizæ.....	q.s.
Ft. pil. No. c.	S. Take one pill four times daily.

If more inflammatory infiltration appears, the incision is repeated.—CUMSTON.

When disintegration sets in, warm fomentations or disinfectant dressings are indicated. Calcis sulphuratæ, gr. ss. to gr. i. Hot bathing and hourly poultices.—FRENCH.

Use cocaine, remove all necrosed tissue after incision, apply pure carbolic acid, pack with iodoform gauze, and surround the parts with a ten-per-cent permanganate-of-potassium solution.—C. A. GRAY.

Surround the carbuncle with a deep incision and remove the whole mass, and swab with—

℞ Zinci chloridi	gr. xl.
Aquæ.....	3 i.

If all tissue cannot be cleanly removed apply—

- R̄ Carbolic acid..... 1
- Alcohol..... 1
- Methyl violet..... 1
- Water..... 10
- M. S. Dust with iodoform and pack with gauze.

—J. O'CONNOR.

To abort :

- R̄ Pulveris opii,
- Unguenti hydrargyri,
- Saponis duræāā ʒ ss.
- M. S. Apply spread on thick leather.

—BUXTON SHILLTOE.

- R̄ Tincturæ iodi ʒ i.
 - S. Apply so as to encircle the carbuncle until it produces vesication.
- JORDAN.

- R̄ Farinæ lini,
 - Fermentiāā q.s.
 - Fiat cataplasma.
- ELLIS.

Unguentum hydrargyri spread upon a piece of cloth is applied over the carbuncle and left there, while the skin around it is rubbed every two hours with a piece the size of a pea.—
ROTH.

I always give attention to the antiseptic treatment of the skin in the vicinity after opening, so as to prevent the recurrence in ring form around the original carbuncle or boil, due to migration of micro-organisms.—S. O. L. POTTER.

Catalepsy.

A paroxysmal suspension of sensation and voluntary motion, lasting from a few minutes to an indefinite number of hours, or even days, without the respiration or circulation showing effort on the part of the subject, serves to distinguish this condition. The skin is completely anæsthetic and the muscles retain the limbs in the position in which they happen to be at the moment of seizure.

DIFFERENTIATION.—From apoplexy we distinguish it by the

susceptibility of the pupils to light; by the eyes remaining open, by the absence of stertorous breathing, and by the fixed position of the muscles. When the history can be obtained we learn that the state is a recurrent one. In ecstasy, the consciousness is not completely lost, but the subject is so engrossed as to be oblivious to surrounding influences.

The diagnosis of hysterical catalepsy is made by the presence or history of unmistakable signs of hysteria.

PROGNOSIS.—Recurrence is the rule. Danger to life is slight.

TREATMENT is essentially that of hysteria. The attack may cease under the influence of irritation of a hysterogenic zone.

Cholelithiasis.

Severe abdominal colic, attended or not with jaundice, is the most common symptom of gall stones or biliary calculi. Inflammation of the gall bladder or catarrh of the bile ducts may give much the same symptoms, and, on the other hand, good-sized calculi may pass into and through the intestines with little or no disturbance.

DIAGNOSIS.—The pain is sudden, severe, and well localized, and when followed by vomiting, not attributable to errors of digestion, furnishes an important indication.

The only symptom present may be jaundice and recurrent rigors. An absolute diagnosis of gall stones can be made by washing the dejecta after an attack of suspected colic, and thus finding a calculus. If the latter be faceted, as is usually the case, it indicates that other stones are, or have been, present. Failure to find calculi under these conditions is no evidence of their non-existence. A stone which has caused biliary colic may pass again into the bladder, become impacted, or ulcerate its way through the abdominal wall. The fact that gall stones are more common after the age of forty, and in

women, especially those leading sedentary lives and given to indulgences of table, is a point not to be lost sight of. A typical severe attack is attended with repeated vomiting of bile-stained fluid and a colic which doubles the patient up in agony, demanding immediate relief. If the pain is referred to the epigastrium, it is more likely to be due to gall stones than to anything else.

A number of paroxysms may occur, until finally relief is obtained by the passage of the stone or by its falling back into the gall bladder. During the period of succeeding jaundice there are symptoms of slight gastritis and tenderness over the liver.

At times occasional slight dyspeptic symptoms, or evidences of mild "biliousness" alone, are complained of, but, as Graham has claimed, if in the absence of icterus, frequent and careful examination of the urine is made for bile, it will be found, especially if cholecystitis be present. An invasion of pyogenic organisms may occasion symptoms of localized peritonitis, sudden pain, tenderness, high temperature, anorexia, nausea, and vomiting.

DIFFERENTIATION.—In the absence of jaundice the diagnosis of biliary colic is, according to Graham, distinguished only with difficulty from painful distention of the stomach and spasmodic closure of the pylorus.

Acute pancreatitis, especially when associated with jaundice, might lead into error, but the tenderness is more to the left, is usually more severe, and attended with symptoms of collapse. Pancreatic calculus gives at times symptoms scarcely to be distinguished from those originating in the gall bladder.

If the attack were due to peritonitis with perforation, there would be rigidity of the abdominal walls, with swelling, tenderness, and tympanites. The pain of appendicitis is usually considerably lower in the iliac fossa; still it may be simulated. In kidney stone the pain follows the course of the ureter and is reflected to the penis or testes, while the urine soon shows evidences of gravel. In pyonephrosis it shows pus.



DIAGNOSIS (C)

Pathological condition.	Pain.	Fever.	Vomiting.	Jaundice.
I. Calculous Disease.				
(a) Stone in healthy gall bladder, ducts free.	No	No	No	No
(b) Stone in healthy gall bladder, cystic duct temporarily obstructed.	May be absent; generally present during obstruction; paroxysmal.	No	May be present when colic occurs.	No
(c) Stone impacted in cystic duct.	No	No	No	No
(d) Stone in hepatic duct.	Frequently present; irregular type.	Occasionally present.	May be present during pain.	Frequently present.
(e) Stone in common duct; acute obstruction.	Present; acute paroxysmal radiating to back.	Generally present.	Present ...	Present ...
(f) Stone in common duct, movable; chronic.	Periodic attacks of acute radiating pain.	Present with chills and sweats.	Present....	Present ...
(g) Stone in common duct, impacted; chronic.	May be absent; frequently present early; may be intermittent; variable.	May be present; variable.	Often present.	Present ...
II. Inflammatory Disease.				
(a) Cholecystitis sub-acute.	Present; paroxysmal during periods of cystic duct closure from stone or swollen mucous membrane.	Present during attacks of colic	May be present.	No
(b) Cholecystitis acute	Acute paroxysmal radiating pain; extending to back and shoulder; may be very severe.	Present, with chills and sweats.	Present; often severe.	No
(c) Cholecystitis chronic (empyema of gall bladder).	Severe radiating pain at first; may disappear later; tendency to recur.	Present; severe at first, may diminish later	Present at first.	No
(d) Cholecystitis in previously diseased and contracted gall bladder.	Present; often severe; paroxysmal.	Present; often with chills and sweats.	Present	No
(e) Cholangitis of hepatic and common ducts.	May be absent; generally present when obstruction exists, or severe infection; tenderness and pain over liver in intrahepatic cholangitis.	Present; chills; sweats; severe prostration; general sepsis	Present ...	Present ...
III. Neoplasms.				
(a) Carcinoma of gall bladder.	No; may occur late in disease.	No	No	Present ...
(b) Tumor of cystic duct.	No; may occur late.....	No	No	No
(c) Tumor of hepatic or common duct.	No; may occur late.....	No	No	Present ...
(d) Tumor of neighboring viscera producing chronic obstruction of common duct.	No; may occur late.....	No	No	Present ...

The accompanying table, prepared by Dr. Geo. E. Brewer," gives the differential diagnosis in the various gall-bladder diseases exclusive of the rare conditions of actinomycosis, tuberculosis, and gumma.

The pain from gastric ulcer comes sooner after eating, is more apt to follow certain kinds of food, and is referred more directly to the region of the stomach. The history of preceding similar attacks is of value, especially if jaundice has followed, and such a history may give aid in obscure cases of intestinal obstruction.

In hysterical and nervous women pseudo-biliary colic is distinguished by the absence of jaundice. In chronic impaction there may be a chill, the temperature reaching 103° F. or over, followed by sweating, simulating an attack of ague, and, especially when recurrences correspond to one of the well-known types, continuing perhaps through several weeks, a faulty diagnosis of malarial fever has been made. The localized pain and persistent jaundice should be sufficient to distinguish the affection.

Obstruction of the small intestine by a large biliary calculus which has ulcerated through may lead to confusion as to its exact nature, until a laparotomy or autopsy makes it clear.

When a tumor is formed by a distended gall bladder, it is distinguished from movable kidney and other abdominal swelling, by the jaundice usually present, bile in the urine, history of attacks of colic, movement of the tumor with respiration, and mobility of the lower portion while the upper is fixed.

TREATMENT.—*Prophylaxis.*—Moderate diet excluding fats, sweets, and alcohol, and the daily use of sodium phosphate with glycerin.

In the attack :

R Morphinae sulphatis	gr. ʒ-ʒ
Atropinae sulphatis	gr. ʒss
M. S. Inject.	

And give—

℞ Chloroformi..... ℥ xxx.
 Aquæ laurocerasi 3 i.
 Spiritus ætheris compositi 3 i.

M.

—W. GILMAN THOMPSON.

When pain is of moderate intensity but almost continuous:

℞ Potassii iodidi..... gr. v.-x.
 Twice daily.

—DUNN.

Large quantities of warm water to which bicarbonate of sodium may be added. Oil, fatty acids, sodium and potassium salts are all good solvents of cholesterin, which is the gall stone's chief ingredient.

℞ Olei olivæ..... 3 vi.
 Spiritus vini gallici 3 ss.
 Mentholi..... gr. ij.
 S. From two to twenty ounces daily.

If not borne by the mouth, ten ounces per rectum.—BROCK-BANK.

Or an ounce at first, increased rapidly to six or eight ounces at a dose.—CLARKE.

Repeated at intervals the oil treatment may prevent recurrence by keeping the biliary secretions in a fluid state.

Regulate excretion of bile by flushing the bile passages by the abundant use of water. Avoid too long fasting.

As a biliary antiseptic nothing is better than salicylate of sodium. There is no hope of effecting solution of concretions. Their seat cannot be reached.—WILLIAM HUNTER.

℞ Olei terebinthinæ ℥ v.
 Syrupi acaciæ 3 ss.
 Sodii sulphocarboulatis gr. xx.
 Spiritus ætheris compositi..... ℥ xv.
 Aquæ menthæ piperitæ q.s. ad 3 i.
 M. S. To be taken twice or thrice daily.

Hot poultices should also be applied to the hepatic area.—BALFE.

To stop short the attack, glycerin, pure, up to an ounce at a dose. In dose of a drachm to three or four drachms daily it prevents new attacks.—FERRAND.

Biliary calculi with angicolitis, chills, fever, etc.:

℞ Calomel gr. iv.-viiij.

℞. Every two or three days.

—RANGLARET.

Hepatic colic:

℞ Valerianate of amyl,

Sulphuric ether. ãã gtt. iiij.

M. For one capsule. Let twenty such capsules be made. S. Two capsules every half-hour until six have been taken.

Or sulphate of morphine subcutaneously and large quantities of very dilute lemonade.—THUDICHUM.

When there is intolerance for morphine:

℞ Nitroglycerin gr. ʒss

—TURNBULL.

When severe, cold full baths at from 71° to 82° F.—MOLLIÈRE.

An alkaline course combined with baths and diet is of benefit, not only in causing expulsion of stones, but in preventing their formation.

Olive oil, beginning with two ounces and increasing to half a pint twice daily, acts chiefly as a cholagogue.—R. B. DUNCAN.

During the attack:

℞ Glycerini ʒ i.

Spiritus chloroformi. ʒ i.

Tincturæ belladonnæ. ℥ xxx.

Tincturæ opii camphoratæ. ℥ xx.

Aquæ ʒ v.

M. S. Tablespoonful at a dose.

—LE GENDRE.

If vomiting is present:

℞ Chloroformi,

Tincturæ myrrhæ ãã ℥ xv.

Mucilag. acaciæ ʒ ij.

Syrupi ʒ iiiss.

M. S. Tablespoonful every fifteen minutes.

℞ *Ætheris sulphurici* ʒ i.
 Syrupi acaciæ ʒ iv.
M. S. Same as above.

—LEMOINE.

Ice and iced drinks.

Turpentine stupes and hot applications, moist or dry.

In threatened collapse, chloroform anæsthesia.—THUDICHUM

The family physician should relegate cholagogues, cathartics, and opiates to their proper and very limited sphere, and in these conditions, after having such insignificant beginnings and which become menacing and dangerous so suddenly, turn to the surgeon at the right moment. An ever-increasing number of human beings will thus be rescued from death and from severe suffering.—J. ADLER.

For the immediate relief of the patient, hypodermic injections of morphine. When the pain is so atrocious that morphine seems to be inadequate, chloroform or ether may be given by inhalation. The general prolonged hot bath is of signal benefit. Emetics should be rigorously proscribed.—OUCHTERLONY.

When a large amount of fat is introduced into the stomach, a corresponding amount of bile is excreted for its proper solution. This great increase in the biliary flow causes a mechanical pressure which induces a gradual distention of the ducts and a propulsive power upon the engaged calculus.

℞ Sweet oil..... ʒ v.-vij.
 Brandy ʒ iss.
 Menthol ʒ ss.
 Yolks of two eggs worked smoothly in.

S. One dose. —SIEGFRIED ROSENBERG.

Caution.—Oil affects the system injuriously in adhesive cholecystitis, is useless in ascending suppurative infection, and injurious by reason of impairing digestion and giving extra work to the liver.—BARTH.

℞ *Extracti belladonnæ*..... gr. ss.
Every two or three hours.

—MURCHISON.

- R. **Chloroformi** 3 ss.
Olei amygdalæ dulcis 3 i.
Syrupi acaciæ $\frac{3}{4}$ iss.
M. S. Tablespoonful every quarter or half hour.

—TOURASSE.

Sodium phosphate, a heaping teaspoonful in plenty of water thrice daily, kept up for several weeks, is very efficient treatment. The crystals must be used freshly pulverized, as the granulated salt is inert. Put three heaping teaspoonfuls into a pint of boiling water; when cold, drink it with seltzer water of any kind added, during the day.—S. O. L. POTTER.

Cholera.

Asiatic cholera comes into question only at times of epidemic prevalence and is then to be distinguished from cholera nostras, cholera infantum, poisoning by arsenic, and some varieties of peritonitis. The microscopical test shows comma bacilli lying in groups, which Koch believes is characteristic. A minute particle of mucus from the dejecta is stained with a dilute solution of carbolic fuchsin and examined directly. This is reliable only when the bacilli exist in a state of almost pure culture. The slower method of culture in an alkaline medium of peptone, gelatin, or agar-agar gives positive results.

DIAGNOSIS.—Aside from the aid furnished by bacteriological examination we have the rapid development of collapse after vomiting and rice-water stools in those who have been exposed to infection. The skin is cold, the breath icy, and the character of the colic agonizing. The whole body is bathed in perspiration, with facies of a pinched, pale, and shrunken appearance, with cheeks slightly flushed. During the period of reaction in cholera, an erythematous or urticarial eruption, or one resembling scarlatina, coincides with the rise of temperature. It is, however, marked on the backs of the hands and forearms, but may cover all the limbs as well as the back. In some cases it

is slightly hemorrhagic. Desquamation usually follows. The tongue is red at the borders and thickly coated in the centre.

Upon this appearance and the following symptoms, Dr. J. M. Byron lays particular stress in the early recognition of cholera: bluish hue of lips, slight congestion of conjunctivæ, and a peculiar rather stupid look in the eye. One of the most important and earliest symptoms, he says, is a compressible pulse of 108 to 120, without accompanying elevation of temperature.

DIFFERENTIATION.—In cholera morbus, whose symptoms may closely approximate those of Asiatic cholera, the stools remain bile stained and contain fæcal matter and perhaps blood instead of taking on the rice-water features.

In gastro-enteritis from copper and other mineral poisons, as well as in ptomain poisoning, there is much less cyanosis and collapse is not so marked.

PROPHYLAXIS.—In the prevalence of an epidemic, the safest rule in practice is to treat every case of diarrhœa, no matter how slight, with the utmost care, and on the principle that it may be premonitory of a grave attack of Asiatic cholera.—E. C. WENDT.

Isolate patient, disinfect clothing and dejections, and see that drinking-water is recently boiled and food properly cooked before being used.—FRANK ABBOTT, JR.

The only likely preventive is the use of pure water during epidemics.—ELMER LEE.

The introduction of arsenious acid into the circulation (a theoretical suggestion).—REGINALD LEACH.

Haffkine Virus Antidote.—It is still too early to form a final opinion as to the method's value. Inoculations have seemed in several instances to afford protection; four per cent of those vaccinated and over twenty-one per cent of those unprotected contracted the disease in one instance.

The method will prove of inestimable value as a means of

protecting bodies of men, such as European troops in India, when temporarily stationed in a region in which cholera is endemic, and communities exposed to occasional visitations of the epidemic disease.—ANDREW DAVIDSON.

TREATMENT varies with the different stages.

In first stage, warm bath, warm bed.

℞ Hydrargyri chloridi mitis ... gr. x.

Enteroclysis or intestinal irrigation.

Introduce such a tube into the rectum as is used for stomach washing, and let flow from a douche cup or bag a two-per-cent solution of tannic acid at 110° F. Let fluid flow in slowly. The introduction of a quart should consume ten or more minutes. The fluid should be retained for some time. Repeat every hour.—BYRON.

At the onset of profuse vomiting and diarrhœa:

℞ Tincturæ cinchonæ compositæ,

Spiritus ætheris compositiāā 15

Acidi hydrochlorici diluti..... 2.5

Olei menthæ piperitæ..... 0.3

Quininæ hydrochloratis..... 2

M. S. Twenty drops three or four times a day.

—BOTKIN.

For intestinal antiseptis in the premonitory and up to the fully developed stage, salol.—SHAKSPEARE.

Wash out the blood by hypodermoclysis or the subcutaneous injection of warm normal salt solution,—

℞ Sodii chloridi 0.6

Aquæ destill 100

or approximately two teaspoonfuls of table salt to a quart of distilled sterilized water, heated to 110° F. before using. Attach a fine aspirating-needle to the end of a fountain-syringe tube, and introduce it deeply into loose subcutaneous tissue under strict antiseptis. Through this one or two quarts may be introduced in an adult every hour or so, the process itself consuming about half an hour. If absorption is delayed and a tumor forms and persists for some time, it has bad prognostic significance.—BYRON.

To favor reaction, especially in cases of medium severity, hot baths in association with transfusion or other treatment.

The temperature should be 40° or 42° C. and the duration 15 or 20 minutes.—MARCELLIN.

For hypodermic injection :

℞ Chloralis..... 3 iij.
 Morphinae sulphatis gr. i.
 Atropinae sulphatis gr. $\frac{1}{4}$
 Aquæ chloroformi,
 Aquæāā 3 ss.

M. S. Twenty minims, repeated in ten minutes, and subsequently *pro re nata*.

—BARTHOLOW.

1. Stimulating drinks are to be given—tea, coffee, brandy, rum; the body is to be warmly covered and hot-water bottles or hot bricks are to be applied to the feet. 2. For the diarrhœa, a teaspoonful of the following every fifteen minutes:

℞ Acidi lactici..... 10 gm.
 Syrupi limonis..... 2 "
 Syrupi simplicis..... 90 "

M. And pour into a quart of water.

3. For the vomiting, as well as for diarrhœa, twenty-five drops of the following as often as either threatens:

℞ Spirit. ætheris composit.,
 Extr. valerian. ether.....āā 5 gm.
 Tincturæ opii 1 "
 Spiritus menthæ piperitæ 0.80 "

Pieces of cracked ice may also be swallowed or aerated drinks given.—*Paris Cholera Commission*.

Introduce high up into the bowel a 1-32 solution of hydrozone.—JOHN AULDE.

℞ Chloroformi,
 Tincturæ opii,
 Spiritus camphoræ,
 Spiritus ammoniæ aromatici.....āā 3 iss.
 Creosoti..... gtt. viij.
 Spiritus vini gallici 3 ij.

M. S. Ten to twenty drops in ice water every five minutes.

—HORNER.

As a prophylactic and also in threatened collapse :

- ℞ Strychninæ sulphatis..... gr. $\frac{1}{4}$
 Acidi sulphurici diluti..... $\frac{3}{4}$ ss.
 Morphinæ sulphatis..... gr. ij.
 Aquæ camphoræ..... $\frac{3}{4}$ iiss.
 M. S. One teaspoonful every hour or two. Dilute it well.

—BARTHOLOW.

For vomiting and diarrhœa during reaction :

- ℞ Acidi carbolici..... gr. viij.
 Bismuthi subnitratiss..... 3 ij.
 Mucilag. acaciæ,
 Aquæ laurocerasi..... āā $\frac{3}{4}$ i.
 M. S. One teaspoonful every hour or two.

—CARPENTER.

- ℞ Tinct. opii depurati,
 Spiritus camphoræ,
 Tincturæ capsici..... āā $\frac{3}{4}$ i.
 Chloroformi purificati..... 3 iij.
 Alcoholis (95 per cent)..... q.s. ad $\frac{3}{4}$ v.

M. S. For persons over 18 years of age, 3 i. ; for persons 14 to 18 years of age, 3 ss. ; for persons 6 to 10 years, gtt. xxx. ; for persons, 2 to 6 years, gtt. x.-xxx. ; for infants, gtt. i.-x., according to age. To be taken in water. Repeat dose after each movement.

—E. R. SQUIBB.

- ℞ Tannini..... 3 i.- $\frac{3}{4}$ ss.
 Vini opii (Sydenham's)..... gtt. xxx.
 Pulveris acaciæ..... $\frac{3}{4}$ i.

M. S. This to be added to two quarts of water at a temperature of 100° F. or 104° F. Use as a high rectal injection after each evacuation.

To prevent the thickening of the blood :

- ℞ Sodii carbonatis..... gr. xl.
 Sodii chloridi..... 3 i.
 Aquæ destillatæ..... $\frac{3}{4}$ iv.
 M. S. Heat to temperature of 100° to 104° F. and inject subcutaneously.

When injection failed and prognosis became grave :

- ℞ Pulveris ipecacuanhæ..... gr. xxx.
 Aquæ destillatæ..... O ij.
 Ft. injectio. (Let stand two hours before using.)

For the cramps, dry friction and counter-irritation with mustard or turpentine.

For the vomiting, ice pellets, iced champagne, tincture of iodine in water.—CANTANI.

℞ Extracti cannabis indicæ gr. xvi.
 Camphoræ. 3 ss.
 Chloroformi 3 ss.
 Olei terebinthinæ. 3 ij.
 Mucilag. acaciæ,
 Syrupi simplicis. āā 3 ss.
 Aquæ cinnamomi 3 i.

M. S. Tablespoonful every one or two hours.

—G. B. THORSTON.

℞ Creosoti gtt. i.
 Aquæ camphoræ,
 Infusi gentianæ compositi. āā 3 vi.

M. S. One dose. Repeat every two hours.

—J. T. JONES.

℞ Tincturæ rhei compositæ. ℥ v.
 Tincturæ rhei spirituosæ. ℥ ij.
 Tincturæ opii,
 Tincturæ valerianæ ætherosæ (G. P.),
 Tincturæ menthæ piperitæ,
 Spiritus ætheris compositi āā 3 ij.
 Olei menthæ piperitæ. ℥ xxiv.
 Extracti nucis vomicæ gr. ivss.

M. S. Dose fifteen to twenty drops.

—INOSEMZEFF.

Rectal injections of carbonic acid gas.

℞ Acidi nitrosi 3 i.
 Tinct. opii deodorat ℥ xl.
 Aquæ camphoræ. ad 3 viij.

M. S. One ounce, repeated in two or three hours.

Cholera Infantum.

An acute catarrhal diarrhœa occurring in a child during the summer, especially where the hygienic surroundings leave much to be desired, and when each attempt to give nourishment or medicine is followed by vomiting, the condition can usually be thus designated with propriety.

DIAGNOSIS.—The stools soon become greenish, watery, sour, and attended with colicky pains. The abdomen is at first distended with gas, but retraction soon takes place. Cases are often seen first in this stage of collapse, which has been preceded by twenty-four hours of perhaps watery passages. The child,

whose skin was previously dry and hot, and who was restless, with a temperature reaching possibly 104° , now presents cold and clammy extremities and general coolness of the surface, while the thermometer in the rectum shows a temperature which may reach 106° . This may be followed by brain symptoms.

The distinctive features are the marked restlessness, the high temperature, and the quickly following collapse with pinched features and sunken fontanelle, dyspnoea, and cyanosis.

After an attack of sudden vomiting, preceded or accompanied by severe pain, there are repeated evacuations of the bowels with pain especially referred to the neighborhood of the umbilicus, paroxysmal in character, which doubles the patient up. The pulse is rapid, the expression anxious, and the whole surface covered with perspiration, especially noticeable on the forehead. After the first vomiting of the stomach contents, renewed efforts bring up bitter greenish fluid. The subsequent passages are watery and profuse. Between the paroxysms the patient secures some relief and rest, but usually they are so approximated as to keep the patient very active.

DIFFERENTIATION.—The only affections at all likely to be mistaken for this are ordinary diarrhoea or entero-colitis. The former would be distinguished by the absence of both vomiting and the severe symptoms threatening collapse. The usual temporary nature of the process would also distinguish it.

From ileo-colitis the distinction may not be possible during the first day or two, since vomiting in both is severe; after this, however, the appearance of blood and mucus in the stools with continued pain will point to the latter affection. The abdomen too is tense, while in cholera infantum it is usually flaccid.

While acute gastritis is sometimes simulated and the taking of irritant poisons much more strongly suggested, the former is attended with a small tense pulse and hot dry skin, and in the latter the vomiting and purging do not occur simultaneously, as is commonly the case in cholera infantum.

From cholera, it is distinguished by the absence of rice-water dejecta and the other severe symptoms as enumerated in the chapter on this epidemic and malignant disease.

PROGNOSIS depends largely upon our ability to place the sufferer promptly in cool and hygienic surroundings, since all severe cases end fatally, especially in crowded cities and tenement districts. Many infants cannot be saved under the most advantageous circumstances. Emaciation and exhaustion are apt to be rapid and extreme.

TREATMENT.—Sterilized milk is a perfect safeguard against it.—WHITLA.

In the early stages with high temperature, a warm bath gradually cooled to 85° F. may be given and repeated at each access of fever.—H. BRYAN DONKIN.

It has been recommended to administer glycozone in medicinal doses, after which the patient is to remain on the right side in the recumbent position for one-half hour. Inject a 1 in 32 solution in distilled sterilized water into the lower bowel as high up as possible by means of a soft rubber catheter (the patient lying on the left side with the hips well elevated).—JOHN AULDE.

℞ Quininae bihydrochlorici 30 gm.
 Aquæ destillatæ ebullatæ.....q.s. ad 100 cm.
 Sodii chloridi..... 0.60 cgm.

M. S. Inject two (Lewin) syringefuls (equal 1.2 gm. of the bihydrochlorate) on the first day ; later on from one to two syringefuls once daily.

—NIEDZWIEDCKI.

When there is great general irritability, with collapse, sunken fontanelle, stupor, coma, or convulsions, frequent small doses of brandy, plenty of cold water, or barley water.

℞ Morphinae sulphatis..... gr. $\frac{1}{16}$

For an initial hypodermic to be frequently repeated.

If vomiting continues, brandy or ether subcutaneously.—H. BRYAN DONKIN.

℞ Naphthalini gr. xx.-lxx.
 Olei bergamottæ gtt. i.-ij.

M. et ft. chart. No. xii. S. One powder every two or three hours.

—HOLT.

℞ Tincturæ opii deodoratæ gtt. xvi.
 Spiritus ammoniæ aromatici 3 i.
 Bismuthi subnitratæ 3 ij.
 Syrupi simplicis 3 iv.
 Misturæ cretæ 3 iss.

M. S. Teaspoonful every two or three hours for a child of one year.

—J. LEWIS SMITH.

℞ Acidi hydrochlorici diluti 2
 Spiritus ætheris compositi 6
 Bismuthi salicylatis 6
 Acidi carbolicæ (C. P.) 0.12
 Glycerini 12
 Aquæ menthæ piperitæ ad 60

M. S. A teaspoonful every hour, according to age.

—ROSAHUSKY.

To correct defective secretion :

℞ Hydrargyri chloridi mitis gr. $\frac{1}{16}$
 Sodii bicarbonatis gr. $\frac{1}{4}$
 Sacchari lactis gr. i.

M. S. Give every two hours.

At the onset :

℞ Olei ricini 3 ss.-3 i.
 Spiritus menthæ piperitæ gtt. i.-ij.

M. S. Give in hot milk.

For collapse :

℞ Beef tea 3 ij.
 Brandy 3 ij.

By enema followed by a warm bath.

If serious, ether or aromatic spirits of ammonia, by hypodermatic injection.

Or rectal injection of starch and warm water. Broths (mutton, beef, veal) are better than peptonized milk; or give no food for twelve or twenty-four hours—(occasional sips of hot water).

Rub chest and abdomen with whiskey or whiskey and water, and wrap in cotton wool or flannel.—F. PERCY ELLIOTT.

Diet. Antiseptics. Irrigation of the bowels, sedatives to allay peristalsis, restoratives.—SYMES.

After all other means fail :

℞ Artificial serum 50 gm.
Inject morning and night. (See page 168). —LOIN.

In urgent cases, one quart and a half of artificial serum, either by hypodermoclysis or by intravenous injection.—DURODIE.

℞ Chloride of sodium 7 gm.
Sterilized water 1,000 c.c.

Or—

℞ Sulphate of sodium 10 gm.
Chloride of sodium 5 gm.
Water (sterilized) 1,000 c.c.

Inject into the subcutaneous tissue, one ounce; make from three to six injections a day.

—LESAGE.

To arrest vomiting and purging :

℞ Bismuthi subnitratis 3 ss. -iss.
Spiritus myristicæ ℥ xx.
Spiritus vini gallici 3 iij.
Syrupi acaciæ ʒ iss.
Aquæ cinnamomi q.s. ad ʒ iij.
M. S. Teaspoonful every two hours.

—POWELL.

℞ Acidi sulphurici aromatici ℥ xxiv.
Liquoris morphinæ sulphatis (U. S. P.) 3 i.
Elixir curaçoe 3 iij.
Aquæ q.s. ad ʒ iij.
M. S. Teaspoonful every three hours for a child of one year.

—GOODHART AND STARR.

℞ Hydrargyri chloridi mitis,

Plumbi acetatis āā gr. i.

M. et ft. pulv. No. iv. S. One powder every three hours for a child from ten to twenty months old.

—T. D. MITCHELL.

℞ Hydrargyri chloridi mitis gr. ij.
Bismuthi subcarbonatis gr. xvi. -xl.
Pulveris ipecacuanhæ et opii gr. i. -ij.
Pulveris sacchari albi gr. xij.

M. S. For eight powders; one to be taken every three hours for two or three days, or until the tongue and mouth become moist and the alvine discharges change in color and consistence.

—THOMAS HAY.

In threatening cases :

℞ Acidi carbolicī (crystal).....	gtt. iij.
Glycerini.....	℥ ss.
Tincturæ opii camphoratæ.....	℥ i.
Aquæ.....	℥ ss.

M. S. Twenty drops every half-hour, till vomiting ceases ; then every four hours.

—N. S. DAVIS.

In severe cases :

℞ Salicylate of bismuth.....	3 ij.
Sulpho-carbolate of zinc.....	gr. iv.
Chalk mixture.....	℥ i.
Paregoric,	
Water.....	āā ℥ ss.

M S. Teaspoonful every two hours until the bowels are controlled, followed by :

℞ Hydrargyri chloridi mitis.....	gr. i.
Sodii sulphocarbolatis.....	gr. xx.
Pepsini saccharati.....	gr. xix.

M. Divide in ten powders. S. Give one every three hours.

—BROUGHTON.

To correct the greenish stools and vomiting :

℞ Hydrargyri chloridi mitis.....	gr. i.
Sodii carbonatis (exsiccatae).....	gr. viij.
Cretæ preparatæ.....	gr. xij.
Sacchari lactis.....	gr. vi.

M. ft. cht. No. v. S. One every two to three hours.

—TUFFS.

Cholera Morbus.

Cholera nostras, or sporadic cholera, as it is sometimes spoken of, comes on suddenly, often in the night, with purging, severe abdominal cramps, and vomiting. Vomiting is usually the first symptom, but pain may precede as well as accompany it. The contents of the stomach are first ejected, then fluid bilious matter, and later on what seems almost like pure water. The stools become progressively more liquid and are finally not different from the rice-water dejections which are supposed to characterize Asiatic cholera. The passages are attended with

tenesmus and tenderness over the abdomen. There may be pain in the calves of the legs. The face is pinched, with anxious expression, covered with cold perspiration, and the pulse is rapid.

It is a disease of adult life, spoken of at times as acute serous diarrhœa.

DIFFERENTIATION.—Poisoning by arsenic, antimony, and mushroom fungi are to be distinguished chiefly by tests applied to the vomited fluid.

Cholera nostras is distinguished from Asiatic cholera by the less rapid development of collapse, by the fact that the stools remain bile stained or contain fæcal matter, and possibly blood, but not the cholera bacillus. The cyanosis, icy breath, and extreme pinching of the facies seen in cholera are here usually absent.

PROGNOSIS.—The attack is usually over within twenty-four hours, but considerable exhaustion follows, rarely collapse, and only occasionally do symptoms of gastro-intestinal catarrh remain. Fatal cases occur chiefly in the very aged and the very young.

TREATMENT.—

℞ Hydrargyri chloridi mitis..... gr. iij.
 Sacchari lactis..... q.s.
 Ft. tab. trit. No. xxx. S. One every hour until the passages become brown.

℞ Hydrargyri chloridi mitis..... gr. i.
 Ft. tab. trit. No. x. S. One every twenty minutes.

℞ Spiritus camphoræ ʒ ss.
 Olei caryophylli..... ℥ xxx.
 Chloroformi..... 3 iij.
 Tincturæ opii deodoratæ..... 3 ij.
 Tincturæ capsici..... 3 ij.

M. S. Shake well and give thirty to forty drops in water from every half-hour to every two hours, p.r.n.

—WOOD AND FITZ.

℞ Extracti opii..... gr. vi.
 Olei theobromatis..... q.s.

Fiant suppos. No. vi. S. Introduce one every two hours or after each evacuation.

Mistura anticholeraica ("Sun Mixture") :

- ℞ Tincturæ opii,
 Tincturæ capsici,
 Tincturæ rhei,
 Spiritus camphoræ,
 Spiritus menthæ piperitæ.....āā 15 gm.
 M. S. Twenty to sixty minims.

- ℞ Acidi sulphurici aromatici,
 Extracti hæmatoxyli.....āā 3 ij.
 Spiritus chloroformi..... 3 ss.
 Syrupi zingiberis.....q.s. ad 3 iij.
 M. S. Teaspoonful every two hours.

—HARE.

To allay vomiting :

- ℞ Creosoti,
 Acidi hydrocyanici diluti.....āā ʒ ij.
 Mucilag. acaciæ..... 3 ss.
 Aquæ.....q.s. ad 3 i.
 M. S. One dose.

To restore the mucous membrane to normal condition :

- ℞ Hydrargyri chloridi mitis..... gr. ʒ
 Pulveris aromatici..... gr. ij.
 Extracti pancreatici..... gr. v.
 Bismuthi subnitratæ..... gr. x.
 M. ft. cht. No. i S. Every three hours.

—F. A. PACKARD.

- ℞ Tincturæ opii,
 Tincturæ capsici,
 Spiritus camphoræ.....āā 3 i.
 Chloroformi..... 3 iij.
 Alcoholis.....q.s. ad 3 v.
 M. S. Twenty to forty minims, p.r.n.

—SQUIBB.

- ℞ Acidi nitrici diluti..... 3 i.
 Tincturæ opii..... gtt. xl.
 Aquæ camphoræ..... 3 i.
 M. S. One-fourth to be taken every three or four hours.

—HOPE.

Or, as modified by Thompson :

- ℞ Acidi nitrici diluti..... 3 ij.
 Spiritus camphoræ,
 Tinct. opii.....āā 3 i.
 Syr. zingiberis..... 3 iv.
 Aquæ menthæ piperitæ.....ad 3 vi.
 M. S. Tablespoonful at dose.

℞ Tincturæ lavandulæ compositæ..... ℥ ij.
 Tincturæ opii,
 Tincturæ rhei..... āā 3 iv.
 Olei sassafras..... gtt. xl.

M. S. A fluid drachm after each movement. Should it fail to act, add
 tinct. catechu, ℥ i.

—LOOMIS.

“Hot Drops”:

℞ Tincturæ opii,
 Tincturæ capsici,
 Spiritus camphoræ,
 Spiritus menthæ piperitæ..... āā 3 ij.
 Aquæ..... ℥ i.

M. S. A teaspoonful.

For a child:

℞ Tincturæ opii,
 Spiritus camphoræ..... āā ʒ xxxij.
 Spiritus menthæ piperitæ..... ʒ lxiv.
 Tincturæ catechu compositæ..... 3 ij.
 Misturæ cretæ..... q.s. ad ℥ ij.

M. S. A teaspoonful.

—G. H. BOSLEY.

For nausea and vomiting:

℞ Acidi carbolici..... gr. iv.
 Bismuthi subnitratis..... 3 ij.
 Mucilag. acaciæ..... ℥ i.
 Aquæ menthæ piperitæ..... ℥ iiij.

M. S. Tablespoonful every two, three, or four hours.

—BARTHOLOW.

℞ Olei terebinthinæ..... 3 ij.
 Olei gaultheriæ..... 3 ss.
 Tincturæ opii..... 3 ij.
 Mucilag. acaciæ..... 3 iv.
 Sacchari albi..... 3 vi.

Rub together thoroughly and add:

Aquæ..... ℥ iiij.

M. S. Shake and give to children between eight and eighteen months old
 from eight to twelve minims every three, four, or six hours, according to the
 frequency of the discharges.

—DAVIS.”

*In protracted cases, liquor ferri nitratis, in suitable doses
 thrice daily, and—*

℞ Quininæ tannatis..... gr. iiij.
 Pulveris opii..... gr. ij.
 Hydrargyri cum cretâ..... gr. iiij.
 Sacchari albi..... gr. xx.

M. et ft. pulv. No. vi. S. One at bedtime.

—DAVIS.”

℞ Morphinæ sulphatis..... gr. ʒ
 Spiritus chloroformi ℥ xxx.
 Mucilag. acaciæ 3 i.
 Aquæ menthæ piperitæ.....ad 3 ij.
 M. S. Half in half an ounce of hot water.

—HARE.*

Chorea.

It is especially in the young that St. Vitus' dance, like other spasmodic affections, is encountered. The history of an injury acting as an irritant to the nervous system, or some pathological process acting in the same way, may point to the origin. A history of fright may sometimes be elicited from children who have not recently passed through scarlatina or rheumatic fever, either of which might have acted in a causative manner.

DIAGNOSIS.—The spasms being continuous during the waking hours, the consciousness not being affected, and there being freedom from permanent muscular contraction, are factors which make the diagnosis comparatively easy.

DIFFERENTIATION.—Chorea is distinguished from the spasms of acute cerebral disease by its being non-febrile and without accompanying delirium.

From tetanus, by the absence of tonic spasms.

From apoplexy, by entire freedom from unconsciousness and from nocturnal spasms or convulsions.

From paralysis agitans by the persistent tremor which takes the place of spasmodic contractions, and by the presence of evidences of general nervous debility in persons much older than those habitually attacked by chorea.

Facial spasms may be said to be of uniform intensity, limited, as a rule, to certain groups of muscles upon one side only of the face.

Writer's cramp presents a muscle jerk only on attempts at writing, and other occupation spasms (ironer's, engraver's, typewriter's) are readily distinguished by their occurrence in those whose profession leads to the particular form discovered.

The condition in hemiplegia may closely simulate ordinary

chorea, especially when the latter is unilateral, but rigid contractions are found in the former alone.

Hereditary chorea presents constant rhythmical motions, seldom developing before puberty. In walking, the subject, after a few steps, assumes a dance-like motion of the limbs, one being brought up to the other with a sudden, quick jerk.

PROGNOSIS in this form is bad, and no treatment influences the condition in the slightest.

Senile chorea, whose spasms are similar to those seen in childhood, has a grave prognosis.

Chorea major may be sporadic or epidemic; the latter is illustrated in the "jumpers," the "whirling dervishes," and the "salaam bowers." This is the *tic convulsif* of the French.

Treatment here consists in hygienic and general measures, since no specific medication is of great value.

Hysterical chorea gives rapid movements of the limbs or spasms of the face, often with a thrusting out of the tongue. It may be so closely allied to hysteria that it is equally proper to speak of it as hysteria with choreic manifestations. The onset is abrupt and the symptoms are shock-like and rhythmic. A hysterical patient may also be choreic. Dubini's disease, or electric chorea, is attended with muscular weakness and atrophy. It is probably an infectious disorder.

Reflex chorea is occasionally seen during the pregnancy of nervous women, and may be attended with such continuous movements as to cause exhaustion unless controlled by such drugs as opium or chloral. Antipyrin and bromides have also been recommended. Abortion is often justifiable.

TREATMENT.—When the muscular contractions are so great as to prevent sleep, the patient should be laid between freshly ironed sheets or warmed blankets, and the following administered:

R Chloralis.....	3 ij.
Sodii bromidi	ʒ ss.
Aquæ destillatæ.....	q.s. ad ʒ iiij.
M. S. Teaspoonful every five hours for three doses.	—HARE.

In chorea of Sydenham, or chorea minor, salophen, gr. x. at each dose.—PIERRE MARIE.

Or, arseniate of sodium, 0.005 mgm., gradually increased to 0.020 or 0.030 mgm.—GLASSICOURT.

Arsenic in large and progressive doses. One centigram from the first day, increased each day half a centigram up to four centigrams, in plenty of water or mucilaginous menstruum. Repose in bed; milk diet. Having reached a daily dose of four centigrams, run down the scale in the same way and stop. Cure in eight days.—COMBY.

℞ Zinci valerianatis gr. xl.
Cinchoninæ sulphatis..... gr. xx.
℞ M. ft. pil. No. xx. S. One thrice daily.

—DA COSTA.

℞ Strychninæ sulphatis..... gr. ij.
Aque..... ℥ i.
℞ M. S. Five drops three times a day to child of fifteen years.

—HAMMOND.

℞ Extracti cimicifugæ,
Elixir simplicis..... āā ℥ iss.
℞ M. S. Two teaspoonfuls four times a day.

—BARTHOLOW.

In aggravated chorea, attended with severe pains in the limbs and persistent rheumatic swellings:

℞ Liquoris potassii arsenitis..... ℥ ij.
Potassii bicarbonatis gr. iij.
Potassii iodidi..... gr. ij.
Aque camphoræ ℥ ss.
℞ M. S. For one dose. Give thrice daily to child of five.

—THOMAS HILLIER.

℞ Zinci sulphatis gr. ij.
Extracti conii..... gr. iij.
℞ M. et ft. pil. S. Take every night.

—ANDREW.

℞ Liquoris potassii arsenitis ℥ iss.
Vini ferri amari..... q.s. ad ℥ iij.
℞ M. S. Teaspoonful after meals.

—POWELL.

Hyoscyamine will be found useful in chorea which has resisted other remedies.—DA COSTA.

In children, arsenic, with antirheumatic or antimalarial drugs. Re-education of co-ordination. Put the child to bed warmly clad and give a diet containing an abundance of milk, fruit, and vegetables, and no red meat. Bathe twice daily with tepid water, giving spinal douches followed by brisk rubbing and massage. During the first week give a laxative every second or third day to do away with any intestinal irritation of fæcal toxins. Give cod-liver oil for the anæmia, preferably in capsules, rather than iron. Re-educate the limbs by gymnastics and Delsartean exercises, always insisting on rest after the exercises. Use salicylates for rheumatic pain, either ammonium salicylate with ammonium bromide in liquor ammonii acetatis or elixir calisaya. Fowler's solution of arsenic, increased from three drops thrice daily by addition of one drop a day until toxic symptoms are produced, is the most satisfactory general method of treatment.—J. MADISON TAYLOR.

R Potassii iodidi..... 3 ss.

Aquæ 3 iv.

M. S. Tablespoonful three times a day.

—SEMENING.

Rheumatism of the brain is the name given to chorea by Andrew Clark. Dyce Duckworth says it is a variety of rheumatism in which the brain is affected instead of the joints.

R Sodii salicylatis..... 3.6 gm.

Ft. pulv. No. xii. S. One four times daily for a child four to six years of age.

If child is anæmic :

R Liquoris potassii arsenitis..... 5 gm.

Spiritus ætheris compositi..... 20 gm.

M. S. Begin with five drops three times a day after meals, increasing by one drop every day until a dose of ten to fifteen drops is reached.

For violent jactitations :

R Chloralis..... 4

Decoctionis radicis althææ..... 90

Syrupi simplicis 90

M. S. Teaspoonful three times a day for a child six to ten years old.

—FILATOW.

To cure within a week, solution of arsenite of potassium, gtt. xv.-xx., continued for a few days.—WM. MURRAY.

Fowler's solution till physiological effects. Fluid extract of cimicifuga in half-drachm doses. Hyoscyamine, $\frac{1}{100}$ gr. Bromide of zinc.—SCURR.

For children of full habit and good general health, the galvanic current is to be preferred. For those who are weak and anæmic, the faradic current is far more grateful and is followed by better results, both immediate and permanent. No method of electric treatment equals the depolarizing method of central and peripheral galvanization together with general faradization. Static electricity is also sometimes of use in calming nervous excitability.—ROCKWELL.

Chorea Magna.—Pay careful attention to the general health, looking out for anæmia and the results of overstudy, improper food, or some attack of illness. Tonics, especially chalybeates, and change of air are to be ordered. Arsenic is to be administered in the same manner as in chorea minor.—SINKLER.

When habit chorea is due to error of refraction, mere correction does not cure. Medical treatment must supplement glasses or tenotomy.

Exalgin is superior to antipyrin, relieving insomnia, muscular weakness, and digestive derangements.—MONCORVO.

Dose, gr. iv., increased by an equal amount daily up to gr. xv. as daily dose for a child of six or seven years.—FÉRÉ.

More serious cases should be put to bed, exclusion as well as rest being thus secured. Not only is recovery facilitated but a diminished liability to heart complication is also attained.—TYSON.

In consequence of the close relations between chorea with its attending arthritis, and rheumatic arthritis, it is reasonable to expect that the salicylates might be useful, but such expectation has not, as yet, been realized.—TYSON.

Fowler's solution in increasing doses up to gtt. xv.—xxv. three times a day. Toleration will be facilitated by diluting with carbonated water. Or by hypodermatic injection.—SEGUIN.

Chorea Minor.—Antipyrin, gr. viii. up to gr. xv., three times a day, in conjunction with the bromides (gr. viii. three times a day gradually increased to gr. xxv.).—ROTH.

Antipyrin (gr. xxv. daily) relieves the motor trouble within a week.—MARFAN.

Massage, gradually increased, and when patient is sufficiently calmed passive motions.—FEDOROV.

In recent cases:

℞ Tincturæ belladonnæ..... ℥ xxx.
Every four hours for ten days.

Caution.—To be used only in such large dose in a hospital ward where patient is kept in bed, the urine daily measured. If it becomes diminished or the eyelids become puffy, give small doses of potassium acetate. Arsenic may be given at the same time, especially in obviously rheumatic cases.—OVEREND.

1. Absolute rest, avoiding any external excitation whatever, and placing the patient in a dark room. 2. The ascending electric current along the spinal cord—the best results with a gentle current, progressively increased. 3. Arsenic in large doses, commencing with twenty drops of Fowler's solution each day for children, and double this amount for adults. When the chorea ceases the medicine should be continued, for the disease returns readily.—DE RENZI.

Chorea minor:

℞ Lactophenin,
Quinine hydrobromate ʒʒ gr. ii½.

M. One such powder to be taken three times a day in the case of children from five to ten years old.

Or—

℞ Lactophenin,
Quinine hydrobromate, ʒʒ gr. xii.
Cacao butter gr. cl.

M. Make a suppository. One to be used at bedtime in children from ten to fifteen years old.

Cocainism.

An habitual user of cocaine shows signs of general nervousness, oppression, palpitation, irritability, curtness in speech, and of becoming readily fatigued. He loses color, ability of application, and strict regard for the truth, resorting to all manner of subterfuge to secure the drug and find favorable opportunity for self-administration. The skin is usually pale, clammy; there is little tendency to sleep, but rather a desire to keep in motion; the pulse is rapid, the pupils are dilated, the muscles twitch, the tongue shows tremor, and hallucination of sight as well as of cutaneous sensibility may exist. Magnan's sign is sometimes present. This consists in a sensation as of a spherical body existing underneath the skin, which varies in size in the sufferer's imagination from that of a small grain to that of a nut. This sign has a peculiar value in differentiation, since it exists in none of the other intoxications.

PROGNOSIS depends largely upon whether the habit was first formed in the attempt to cure morphinism or to alleviate some severe and painful chronic affection. It is also made less favorable by the coincident existence of the alcohol habit.

TREATMENT.—The subject should be put under restraint, often best by treatment in an institution, or under the constant watchfulness of an attendant. The drug can be much more rapidly withdrawn in safety than is the case with morphine. Drug treatment of less harmful nature should supply the necessary stimulus to the various organs.

For the insomnia, trional, gr. xv., repeated as necessary.

To quiet excessive irritability, hyoscine, gr. $\frac{1}{100}$, hypodermically.

For the mental depression, caffeine, gr. ss.-i., or strong coffee, during the day only.

During convalescence nutritious and stimulating food and general tonics.

Colic.

This is a symptom which may be present in a great variety of intestinal disorders. It may be hepatic, pancreatic, renal, uterine, or due to the ingestion of lead or other poisons. The pain is sudden in onset. When accompanied by tympanites and relief of pain follows the discharge of gas, and especially if the pain is located about the navel, gastro-intestinal indigestion is usually the cause. Cramps in the muscles of the limbs and a history of error in diet will help confirm this view.

DIFFERENTIATION.—Attacks of acute enteralgia in *colica pictonum*, besides the history of exposure, chiefly in those whose occupation predisposes them to lead poisoning, will be attended with obstinate constipation but no vomiting. In pseudo-membranous or mucous colitis the colic will be followed by typical evacuations. In renal colic, the location of the pain over the kidney region or pain extending along the course of the ureter will point to the true origin. Enteralgia as a true neurosis comes on much more slowly and perhaps lasts for days instead of for hours. Although the pain here, also, is usually located about the umbilicus it is relieved by deep pressure. In hepatic colic, while the pain is for the most part referred to the region of the liver, it also radiates toward the back and into the shoulder. Here, too, vomiting and jaundice, if present, will lend valuable assistance in diagnosis. The pain of uterine colic is referred more particularly to the pelvis. If due to extra-uterine pregnancy a sudden and intense pain is accompanied by collapse or by signs similar to those of internal hemorrhage. The pain in appendicitis is at times of a distinctly colicky nature, and when referred to the umbilicus tends to mislead for a time the most experienced examiner. It is usually relieved by eructations, but *not* by the discharge of gas per rectum. Tenderness at McBurney's point and the presence of fever simplify the

diagnosis. In peritonitis there is frequently some fever at first or upon recurrence of the pain.

In intussusception, especially of infancy, the symptoms include bloody passages and tenesmus.

In fæcal accumulation or an obstruction of the gut by large gall stones, a local tumor may be made out by palpation, especially in the ileo-cæcal region, where the pain is often located.

Rheumatism of the abdominal wall gives great tenderness of the muscles upon pressure; muscular pains are apt to occur in other regions at the same time, and the urine is rich in uric-acid crystals and urates.

In lumbo-abdominal neuralgia tender points may be found corresponding to the perforation of the fascia by the nerves. In all abdominal colic, in which excessive tympanites does not make it impossible, careful palpation of the region of the appendix should be carried out. An important point is the presence of fever, which opposes the diagnosis of simple colic. Adhesions of the gall bladder may be a cause of pain resembling that of biliary colic.

Any patient presenting himself with severe abdominal colic should be suspected of appendicitis.—MCBURNEY.

TREATMENT.—*In infantile colic*, the following is a promptly acting and satisfactory combination:

℞ Sodii bicarbonatis..... gr. viij.
 Olei anisi ℥ viij.
 Mucilag. acaciæ..... ʒ ss.
 Aquæ menthæ piperitæ..... q.s. ad ʒ ij.
 M. S. A teaspoonful every half-hour.

Two or three doses are often sufficient, but it may be given *ad libitum*.—CRUTCHFIELD.

Colica intestina:

℞ Bismuthi subnitratis..... 15
 Pulveris cinnamomi..... 4
 Sacchari albi..... 60
 M. S. Half a teaspoonful each day before dinner.

—ROSATINSKY.

Flatulent colic :

R Tincturæ nucis vomicæ 3 i.
Acidi nitromuriatici dil. 3 ij.
Spiritus chloroformi 3 i.
Infusi gentianæ.....ad ʒ vi.
M. S. Tablespoonful three times daily after meals.

Intestinal flatulence :

R Powdered coriander,
Powdered peppermint,
Powdered vanilla.....ʒ 5
Powdered senna..... 1
M. S. A teaspoonful two or three times a day.

—MONIN.

Flatulency :

R Olei terebinthinæ 3 i.
S. Three to five drops on sugar.

—BARTHOLOW.

Wind colic of infants :

R Extracti zingiberis fluidi 3 iss.
Tincturæ asafoetidæ 3 iij.
Aquæ menthæ piperitæ,
Aquæ cinnamomi.....ʒ i.
Syrupi simplicis.....q.s. ad ʒ iv.
M. S. Teaspoonful t.i.d. in water before food.

Though difficult to take, its potency is great.—GUY C. M
GODFREY.

Infantile Colic.—Instead of using opiates:

R Misturæ asafoetidæ 3 i.
Sodii bromidi..... gr. iiij.–v.
M. S. This is a dose for a child from one to four months old.

—BARTHOLOW.

R Tincturæ lobeliæ..... gtt. i.
Aquæ..... ʒ i.

S. Teaspoonful at a dose ; give warm and repeat p.r.n.

—HOLTON.

Or, after hydrargyri chloridi mitis, gr. $\frac{1}{17}$, thrice daily:

R Aquæ menthæ piperitæ,
Aquæ fœniculi,
Aquæ destillatæ.....ʒ 80
Aquæ laurocerasi..... 1
Tincturæ opii..... 0.06
Syrupi simplicis..... 10
M. S. Teaspoonful every two hours.

—ESCHERICH.

Hypodermatic injection of morphine at once to relieve the pain. The cause can be treated subsequently.

Pancreatic Colic.—Preceded by dull constricting pain above the epigastrium, due to obstruction of the excretory ducts of the pancreas by calculous formation.

Colic of Intestinal Lithiasis.—Passage of gravel of intestinal origin in gouty subjects, is preceded by abdominal distention, nausea, pain referred to large intestine, with multiple irradiation, membranous and muco-purulent evacuations.

Differentiation from hepatic colic by the special composition of the gravel (organic matter derived from the fæces together with salts of lime and magnesium).

Treatment as in other forms of lithiasis.—DIEULAFOY.

Hepatic Colic.—Avoid the hypodermic use of morphine by giving:

℞ Ext. bellad.,

Ext. opii.....ââ 0.20 cgm.

Ol. theobromatis..... q.s.

M. For one suppository—make four such. S. One repeat in half an hour, then every hour.

Apply over the liver region a flax-seed poultice made with laudanum. Give internally:

℞ Sodii bicarbon 4 gm.

Aq. destil..... 100 “

Syr. simp..... 80 “

M. S. A teaspoonful every half-hour, alternating with:

℞ Ac. citric..... 4 gm.

Aq. destil..... 100 “

Syr. limonis 80 “

A teaspoonful on the quarter-hour.

—BACALOGHI.

Or, subcutaneous injection of sulphuric ether or Hoffman's anodyne in the hepatic region.—KUMS.

Colic of Intestinal Acidity.—Tincture of asafetida, ℥ xx. to 3 i. in milk of magnesia.

In severe abdominal pain and shock, which may be due to colic, intestinal obstruction, perforation of a viscus, rupture of

an appendicular abscess, or some other grave condition, give at once:

℞ Brandy..... ℥ i.
Milk..... ℥ iiij.
M. S. By enema.

Wrap hot blankets round each leg and one about the chest. Cover the abdomen with a hot flannel cloth, which can be removed for the examinations made to determine the exact nature of the affection.—GREIG SMITH.

When pain is located low down in the bowels:

℞ Cannabis indicæ..... gr. ½

In violent spasmodic attacks associated with distention of stomach and intestines:

℞ Spiritus cajuputi,
Spiritus ammonii aromatici,
Spiritus chloroformi ℥ p. œ.
M. S. Teaspoonful in a wineglassful of water every half or quarter hour.

In flatulent dyspepsia, nerve tonics.—STEPHEN MCKENZIE.

After indiscretion in diet:

℞ Chloroformi..... ℥ iss.
Tincturæ opii deodoratæ..... 3 i.
Camphoræ..... gr. xv.
Olei cajuputi..... 3 i.
Aquæ..... q.s. ad ℥ ij.
M. S. Dessertspoonful every two or three hours.

Colic, Lead.

℞ Antipyrin..... 3 i.
S. To be given in divided doses during the day.

—DEVIC AND CHATIN.

℞ Epsom salt..... ℥ i.
Dilute sulphuric acid..... 3 i.
Water..... 3 iv.

M. S. A tablespoonful three times a day, preceded by ten grains of potassium iodide.

—BRUNTON.

℞ Extracti colocynthidis compositi..... gr. ij.
Extracti opii..... gr. ss.
Extracti belladonnæ..... gr. ½

M. et ft. pil. S. This pill to be repeated until pain is relieved and the bowels are opened.

—WILLIAM PEPPER.

R Sulphuris loti,

Mellis despumati ʒ iv.

M. S. One and one-half tablespoonfuls to be given three consecutive days; then dose gradually diminished. On the third day the acute pain has disappeared.

Or—

R Chloroformi 3 ss.

Alcoholis diluti ʒ ss.

M. et adde :

Aquæ ʒ viij.

M. S. To be given as an enema.

—LUTZ.

R Aluminis 3 ij.

Acidi sulphurici diluti 3 i.

Syrupi limonis ʒ i.

Aquæ 3 iij.

M. S. Tablespoonful every hour or two.

—BARTHOLOW.

Purgatives, sulphuric lemonade, sulphur baths.—PAUL.

(See also under *poisoning* by lead.)

(For treatment of nephritic colic, see “Nephrolithiasis;” for that of hepatic colic, see “Cholelithiasis.”)

Constipation.

Constipation, as distinguished from obstruction, is a chronic condition without urgent symptoms. The difficulty of evacuation constitutes the chief factor in diagnosis. The attendant symptoms, however, include headache, dizziness, sluggish mental state, sallow complexion, and lack of normal appetite. Constipation exists as a symptom of severe disease, possibly of the brain or spinal-cord paralysis, or of conditions of general muscular weakness; so that, in the matter of treatment, we must decide what causes have been operative in its production. Tenderness of a particular part may indicate the presence of peritoneal adhesions, or faulty stomach digestion may indicate that treatment is to be especially directed to the latter organ. When there is fæcal accumulation, the outline of the large intestine may be defined by palpation and percussion. When

hard masses are felt in palpating the abdomen, the softer consistence of fæces will distinguish it from malignant disease, calcareous deposits, or biliary calculi, although the size of the tumor may equal that of a large orange. Flatulency and hypochondriacal symptoms may exist along with the other symptoms.

TREATMENT.—Much depends upon the formation of correct habits, as to regularity in the time of going to stool, and the avoidance of acquiring in early life a cathartic-drug habit.

Among general measures are to be recommended the employment of bread made from the whole grain; abdominal massage (perhaps with the aid of a firm ball); marmalade containing bits of hard orange skin; stewed prunes (a bag containing senna leaves may be suspended with the fruit while cooking); an abundance of pure water; mineral waters; and plenty of exercise. Drop drug medication when possible.

In stubborn constipation in women :

℞ Ferri et ammonii citratis	gr. xxx.
Extracti cascariæ sagradæ fluidi	℥ xxxij.
Sacchari	gr. viij.
Aquæ destillatæ.....	℥ iss.

M. S. Half-teaspoonful before each meal.

—LUTAUD.

In chronic constipation :

℞ Pulveris rhei (radicis).....	20
Sodii sulphatis.....	10
Sodii bicarbonatis.....	5

M. S. From what one can take on the point of a knife up to a teaspoonful, according to requirements, stirred up in a large glassful of hot water at bedtime.

—EWALD.

In scanty and defective bile secretion :

℞ Acidi arseniosi	gr. i.
Hydrargyri chloridi corrosivi.....	gr. i.
Pulveris ipecacuanhæ.....	gr. ij.
Hydrargyri chloridi mitis.....	gr. xvi.

M. div. in tab. No. xv. S. One or two tablets daily.

—W. H. PORTER.

In the chronic form, four or five grains of a combination of caffeine and chloral dissolved in water, given by injection.—EWALD.

In habitual constipation, damiana is effective in neurotic subjects, being analogous to strychnine.

When all other means have failed :

℞ Extracti cascariæ sagradæ fluidi.....	100
Tincturæ nucis vomicæ,	
Tincturæ belladonnæ.....	5
Spiritus anisi	10
Chloroformi.....	2

M. S. Take a teaspoonful in a little water after breakfast and dinner for a week, and then *pro re nata*.

—J. DIAS RIBIERO.

℞ Cream of tartar.....	gr. xl.
Powdered anise seed,	
Powdered fennel seed.....	3 i.
Powdered senna pods,	
Washed sulphur	3 ij.
Powdered licorice root.....	3 iiss.
Sugar	3 i.

Mix well. S. One dessertspoonful in water at bedtime, or whenever most convenient.

—DUJARDIN-BEAUMETZ.

℞ Strychninæ sulphatis.....	gr. i.
Extracti belladonnæ.....	gr. v.
Pulveris ipecacuanhæ.....	gr. x.
Extracti colocynthis compositi	gr. xv.
Pulveris rhei	gr. xv.

M. div. in capsulæ No. xxx. S. Take one after meals.

Intestinal fermentation with constipation :

℞ Extracti aloës.....	gr. vi.
Pulveris rhei.....	gr. vi.
Benzosoli	gr. ix.
Extracti hyoscyami.....	gr. vi.

Misce et ft. caps. No. xii. S. One after meals.

—THOMAS HUNT STUCKEY.

Constipation of pregnancy :

℞ Aloini	gr. ʒ
Extracti belladonnæ.....	gr. ʒ
Cascariæ sagradæ.....	gr. ʒ
Strychninæ sulphatis	gr. ʒ

M. S. For one pill.

—HIRST.

℞ Sulphuris loti,	
Potassii bitartratis,	
Sodii bicarbonatis,	
Potassii et sodii tartratis.....	15

M. S. A tablespoonful, mixed with sweetened water.

—E. A. MAXWELL.

In the habitual constipation of delicate persons with feeble digestive organs:

℞ Extract of cascara sagrada..... gr. ij.
 Extract of nux vomica..... gr. ½
 Extract of belladonna..... gr. ½
 Powdered capsicum gr. ½
 M.

One such tabloid after food, once daily, should be taken; increased, if necessary, until two tabloids are taken thrice daily. This dose should be maintained until the habit of regular action is established, when the number should be gradually reduced and at length discontinued.

Remedy the lack of fluids in the body by giving an abundance of water, either hot or cold.—CUTTER.

In gastric hyperacidity with constipation:

℞ Magnesia,
 Rhubarb.....āā 7.50 gm.
 Bicarbonate of sodium,
 Carbonate of sodium,
 Powdered sugar.....āā 15 gm.
 Oil of peppermint q.s.
 M. S. Half to one teaspoonful in water two hours after each meal.

A hygienic mode of living, regular habits, outdoor life, and exercise are of greatest importance in preventing constipation. Abstain from administering cathartics in slight transient disturbances of digestion. Never put a patient on a one-sided diet for too long a time. The patient should be impressed with the importance of not worrying about his bowels; train him to have an evacuation once a day at a certain time, either giving him no drugs whatever, or administering a very slight cathartic for a short period, then gradually diminishing and ultimately discontinuing its use.—MAX EINHORN.

In habitual constipation, dilate the sphincter ani once each week with the anal dilator or with the finger. If digestion is poor:

R Papoid gr. xx.
Dilute hydrochloric acid..... 3 iij.
Glycerin ʒ ss.
Tincture of gentian q.s. ad ʒ iv.
M S. Half to a teaspoonful before meals in water. Also five to ten grains
of bicarbonate of sodium two hours after meals.

—J. M. PERKINS.

DIET.—Vegetables in abundance, either cooked, as spinach, cabbage, broccoli, Brussels sprouts, cauliflower, carrots, turnips, parsnips, and the like; or raw, as tomatoes or celery. Fruits are of advantage—melons, apples, oranges, and figs. When stewed prunes are inefficient in keeping the bowels open, some senna leaves may be tied in a bag and placed in the receptacle in which the prunes are to be stewed; this plan has often been successful when the ordinary stewed prunes have failed. Sugars in themselves are useful laxatives. A favorite addition to the breakfast is marmalade, which contains vegetable salts and sugar.—T. LAUDER BRUNTON.

When there is a lax and torpid muscular coat :

R Sodii valerianatis..... gr. xxxvi.
Tincturæ nucis vomicæ..... ℥ lx.
Tincturæ capsici..... ℥ xlvij.
Syrupi aurantii florum..... ʒ iss.
Aquæ..... ad ʒ vi.
M S. Dessertspoonful half-hour before meals.

—J. MORTIMER GRANVILLE.

A small dose of quinine added to salines increases their power of acting on the intestinal canal, as—

R Magnesii sulphatis ʒ i.
Quininæ sulphatis gr. i.
M S. To be taken in a tumbler of water, every morning.

—WILLIAM THOMPSON.

In habitual form :

R Podophyllin gr. iiss.
Extracti aloes,
Extracti rhei..... ʒā gr. xlv.
Extracti taraxaci..... q.s.
M et ft. pil. No. xl. **S**. One or two at bedtime.

—NOTHNAGEL.

℞ Podophyllin,
 Extracti belladonnæ ℥℥ gr. i.
 Capsici gr. v.
 Pulveris rhei ℥i.
 M. et ft. pil. No. xx. S. One t.i.d.

℞ Extracti gentianæ 3 i.
 Extracti nucis vomicæ,
 Podophyllin ℥℥ gr. iiss.
 Olei cajuputi gtt. xx.
 M. et ft. pil. No. xx. S. One twice daily.

—DA COSTA.

℞ Extracti aloes 3 ss.
 Extracti nucis vomicæ gr. vi.
 Extracti hyoscyami ℥i.
 Pulveris ipecacuanhæ gr. i.
 M. et ft. pil. No. xx. S. One at night.

—W. H. VAN BUREN.

℞ Sulphate of magnesium ʒ ij.
 Glycerin ʒ ij.
 Oil of turpentine ʒ ss.
 Water ʒ ij.
 M. S. Use as an enema.

—C. P. NOBLE.

℞ Confectionis sennæ ʒ i.
 Potassii bitartratis ʒ ij.
 Sulphuris præcipitati,
 Ferri subcarbonatis ℥℥ 3 i.
 Mellis despumati q.s.
 Make an electuary. S. Teaspoonful after meals.

—J. F. MEIGS.

℞ Extracti aloes (purif.),
 Extracti hyoscyami ℥℥ 3 i.
 Extracti nucis vomicæ gr. xij.
 Olei anisi gtt. x.
 M. et ft. pil. No. lx. S. One after each meal.

—METCALF.

℞ Massæ hydrargyri,
 Cambogiæ,
 Ext. aloes,
 Pulveris zingiberis ℥℥ gr. xxx.
 Olei menthæ piperitæ ℥ iv.
 Tincturæ aloes q.s.
 M. et div. in pil. No. xxiv.

—TOWNSEND.

℞ Aloes,
 Scammonii,
 Massæ hydrargyri.....āā gr. xlvij.
 Olei tiglli..... ℥ ij.
 Olei cari..... ℥ ix.
 Tincturæ aloes et myrrhæ ℥ xij.

M. et div. in pil. No. xl.

—JOHN W. FRANCIS.

℞ Cascarin,
 Aloināā gr. ½
 Podophyllin gr. ½
 Extract of belladonna..... gr. ½
 Strychnine gr. ⅙
 Gingerin gr. ⅙

Make one pill. S. As required.

—HINKLE.

To overcome spasmodic contraction and help in evacuation of retained and hardened fæces, large oil enemata.—KUSSMAUL.

To promote absorption of food and peristalsis of small intestine, mineral waters containing substances belonging to the group of common salt (Wiesbaden, Kissingen); or of the large intestines, aperients and laxatives.

To keep contents of large intestine less solid, sodium or magnesium sulphate, or other salts difficult of absorption.—FRANZ PFAFF.

In old age :

℞ Extracti colocynthidis comp..... gr. viij.
 Extracti hyoscyami gr. ij.

M. et ft. pil. No. i.

—NAPHEYS.

℞ Ichthyol..... gr. iiij.

Make keratin-coated pill. S. One such once, twice, or thrice daily.

—GUNSBURG.

℞ Extracti aloes..... gr. xx.
 Pulveris rhei..... gr. x.
 Extracti nucis vomicæ..... gr. v.
 Extracti taraxaci gr. xxx.

M. et div. in pil. No. xx.

—W. T. LUSK.

℞ Cambogia,
 Scammonii,
 Aloes,
 Hydrargyri chloridi mitis,
 Potassii bitartratis.....āā gr. xx.
 Extracti taraxaci..... q.s.

M. et div. in pil. No. xx.

—MILLER.

℞ Cambogiæ,
Pulveris digitalis,
Pulveris scillæ,
Antimonii sulphurati.....āā gr. xlv.
Extracti taraxaci q.s.
M. et div. in pil. No. cxxv.

—HEM.

℞ Resinæ podophylli..... gr. x.
Aloes gr. xx.
Extracti belladonnæ,
Extracti nucis vomicæāā gr. v.
M. et div. in pil. No. xx.

—JANEWAY.

℞ Massæ hydrargyri gr. xxiv.
Aloes gr. vi.
Olei tiglli..... gtt. i.
M. et div. in pil. No. xii.

—CRANE.

℞ Resinæ podophylli..... gr. li½.
Cambogiæ..... gr. vi.
Aloes gr. xxiv.
Hydrargyri chloridi mitis,
Pulveris zingiberis,
Pulveris capsici.....āā gr. xij.
Extracti taraxaci..... q.s.
M. et div. in pil. No. xxiv.

—E. G. JANEWAY.

℞ Resinæ podophylli gr. vi.
Extracti belladonnæ gr. iij.
Pulveris capsici,
Sacchari lactisāā gr. xxiv.
Pulveris acaciæ..... gr. vi.
Glycerini ℥ vi.
Syrupi q.s.
M. div. in pil. No. xxiv.

—SQUIBB.

Constipation in Infants.—Oatmeal should be substituted for other starchy food. A lack of sugar can be corrected by giving,

previously to every feeding or nursing, some tepid water or oatmeal water in which a piece of loaf sugar has been dissolved. Older children will take honey to advantage. Regular doses of cod-liver oil, given two or three times daily, will obviate or relieve constipation, besides fulfilling other indications.

Rectal injections, friction and kneading of the abdomen, and electricity are often useful. Calcined magnesia (five to ten grains a day), either alone or combined with rhubarb, is indicated when there is an excess of acid in the gastric and intestinal contents. Nux vomica, to which may be added some purgative extract, is indicated in insufficient muscular action of the intestine. As an occasional purgative, for the purpose of relieving the intestinal tract of indigestible and injurious masses, castor oil is probably the best and mildest. Calomel or compound licorice powder, or the fluid extract of rhamnus frangula, is valuable for this purpose.—A. JACOBI.

Abdominal massage, with the palm of the hand well oiled, especially over the course of the large intestine, is of service ten minutes each morning.—DE LA CARRIERE.

Give no laxative before the third month and no purgative during the first year. To correct, give cow's milk, four parts, and sweetened water, one hundred; rectal lavage by means of the urethral catheter, employing two tablespoonfuls of oil with the yolk of an egg mixed with four drachms of water; massage; electricity. Or, as a tepid enema:

℞ Sea salt gr. i.
Water 3 i.
M.

—MARFAN.

In the chronic form :

℞ Extracti belladonnæ gr. ss.
Aloes purificati gr. xij.
Olei theobromæ 3 ij.
M. et ft. supposit. No. xii. S. Twice a day and at night.

—STARR.

In children :

℞ Extracti rhei fluidi ℥ xvi.
 Extracti ipecac. fluidi ℥ iij.
 Sodii bicarbonatis..... gr. xxxij.
 Glycerini..... 3 vi.
 Aquæ menthæ piperitæ ʒ ij.

M. S. One-half to one teaspoonful, two or three times a day.

E. R. SQUIBB.

℞ Tincturæ nucis vomicæ..... ℥ ss.
 Tincturæ belladonnæ..... ℥ i.
 Infusi sennæ..... ℥ xx.
 Infusi gentianæ compositi..... ad 3 i.

M. ft. haustus. S. To be taken three times a day at eight to twelve months of age.

Laxative electuary :

℞ Tears of manna 25 gm.
 Calcined magnesia,
 Washed flowers of sulphur 50 "
 White honey..... 20 "

In habitual constipation one or two soup-spoonfuls in a cup of hot milk.
 For a purgative effect three or four spoonfuls.

—FERRAND.

℞ Sodii bicarbonatis 3 i.
 Tincturæ nucis vomicæ..... ℥ vi.
 Tincturæ cardamomi compositæ,
 Syrupi simplicis 3 ij.
 Aquæ chloroformi (B. P.)..... ʒ ss.
 Aquæ..... ʒ ij.

M. S. Teaspoonful every six hours.

—EUSTACE SMITH.

Or, when associated with dyspepsia:

℞ Sodii bicarbonatis,
 Magnesiae..... 0.25 cgm.
 Pulveris nucis vomicæ..... 0.01 "

M. S. To take in a spoonful of sugar and water morning and night for ten days of each month.

Caution.—The dose of nux vomica should not surpass half a centigram a day for each year of the child's age.—COMBY.

℞ Bicarbonate of sodium.....	3 iij.
Powdered rhubarb.....	℥ ij.
Sulphate of sodium.....	℥ i.
Oil of peppermint.....	gtt. xx.

M. S. Half to one teaspoonful before breakfast.

Convulsions in Children.

In children under two years of age give enemata containing 30 gm. of Glauber salts in a mixture of olive oil and glycerin in 150 gm. of water. Inhalation of ether.

Hot or tepid bath or mustard bath if the child seems to have been chilled. To prevent recurrence give:

℞ Potass. brom.,	
Sodii brom.,	
Ammon. brom.....	āā 0.20 cgm.
Syr. codein....	5. gm.
Syr. auranti flor.....	30. "
Aquæ.....	100. "

If the child cannot swallow, give a rectal injection with

℞ Musk.....	0.20 cgm.
Chloral hydrate.....	0.30 cgm.
Camphor.....	1. gm.
Yellow of egg.....	10. "
Water.....	100. "

As a purgative :

℞ Sodii sulphat.....	10
Pulv. sennæ fol.....	8
Mel. commune.....	20
Aquæ destil.....	150

M. S. Teaspoonful three times a day.

—J. SIMON.

For diseases in which convulsions occur at all ages, see Index.

Coryza.

Rhinitis or simple acute inflammation of the nasal mucous membrane, causing the symptoms of sneezing, fulness, and watery discharge commonly known as "cold in the head," is to be distinguished from the catarrhal stage of rubeola, and, in

infants, from "snuffles," which is so frequently an early symptom of lues.

DIFFERENTIATION is also to be made from the annually recurring attacks of autumnal catarrh which we have referred to under the name of hay fever, and in which asthmatic paroxysms are so likely to accompany the nasal discharge. There is likewise more itching about the eyes and nose, and the throat is more decidedly implicated. The history of predisposition and previous attacks will point to the true nature of the affection.

In measles there is suffusion of the eyes, also some photophobia, and the watery discharge soon becomes purulent.

PROGNOSIS.—The affection is disagreeable rather than dangerous, but there is always a possibility of the process extending downward into the bronchi, especially in children.

TREATMENT.—*Prophylaxis*.—Sulphate of quinine, gr. x., in capsule at bedtime. Or Dover's powder, gr. x., at bedtime.

Or—

℞ Atropinæ..... gr. i.
Mentholi..... gr. ss.
Aquæ camphoræ ʒ i.
M. S. Spray a small quantity into each nostril.

Caution.—This should be used very sparingly in children.—

MORRILL.

℞ Acidi tannici gr. x.
Acidi borici gr. x.
Cocainæ hydrochloratis..... gr. iiss.
Aquæ.....q.s. ad ʒ i.
M. S. Use as a spray.

—GUY C. M. GODFREY.

℞ Cocainæ hydrochloratis..... gr. vi.
Bismuthi subcarbonatis..... ʒ ss.
Talcī..... ʒ iiss.

M. S. Enough to cover a silver five-cent piece insufflated into each nostril every two hours.

—SAJOUS.

To abort a cold my favorite measure is the frequent inhala-

tion of a small quantity of chloroform; just a few whiffs every half-hour or hour the first day.—S. O. L. POTTER.

℞ Antipyrin gr. x.
 Aquæ destill..... $\frac{3}{4}$ i.
 M. S. Use as a spray.

Caution.—This is at times so painful that cocainization should be resorted to.—ELSBERG.

Or, large and frequent doses of carbonate of ammonium.—BEVERLEY ROBINSON.

Or—

℞ Sodii bicarbonatis..... gr. xx.-xxx.
 Aquæ..... $\frac{3}{4}$ ij.— $\frac{3}{4}$ iij.
 M. S. Every half-hour until three doses are taken; a fourth dose at the expiration of an hour. Repeat course after two to four hours if necessary.
 —L. D. BULKLEY.

Or, inhalations of menthol-chloroform in the strength of five to ten per cent. A few drops are placed upon a handkerchief, and five or six deep respirations taken. The nasal secretion is augmented at first, but afterward diminished, and the sore throat and laryngeal symptoms are relieved.

The following nasal spray may be employed after the inhalations:

℞ Ichthyoli 1
 Ætheris 1
 Alcoholis 1
 Aquæ destillatæ 97
 —WUNCHE.

℞ Acidi carbolicæ,
 Spiritus ammoniæ..... āā 3 iss.
 Alcoholis..... 3 iij.
 Aquæ..... ad 3 iv.
 M. S. Place ten drops upon blotting-paper and inhale through the nostrils for a minute or two.

℞ Camphoræ (trit.),
 Sacchari albi..... āā 3 ij.
 M. S. A small pinch in each nostril every two hours.
 —BAMBERGER.

℞ Saloli. gr. xv.
 Acidi salicylici gr. iij.
 Acidi tannici gr. ij.
 Acidi borici. 3 i.

M. S. Insufflate into each nostril.

Caution.—Do not continue more than half a day.—CAPTAN.

℞ Sodii salicylatis 3 ij.
 Spiritus ammoniæ aromatici 3 i.
 Syrupi aurantii florum ad 3 ij.

M. S. One teaspoonful every four hours.

Irrigation of the nasal passages may be carried out by means of a pint of normal saline solution at a temperature of 122° F.

Caution is necessary to avoid setting up an otitis media.—COURTADE.

General Catarrhal Conditions and "Colds."—In incipient "cold in the head," coryza, and also in chronic catarrh, fill a wide-mouthed two-ounce bottle one-third full of the following:

℞ Acidi carbolici 10
 Alcoholis 10
 Aquæ ammoniæ 12
 Aquæ destillatæ 20

M. S. Introduce absorbent cotton so that the whole will be gradually absorbed by it. Inhale at frequent intervals.

—HERMAN HAGER.

To dissipate the headache, an uncomfortable sensation of stuffiness, and frontal pressure characteristic of acute nasal catarrh:

℞ Tincturæ euphrasiæ gtt. x.
 S. Repeat every ten or fifteen minutes for two or three hours.

An abortive influence is effected by:

℞ Tinct. gelsemii semper gtt. xx.

S. As a single dose or added to half a tumblerful of water and a teaspoonful taken every ten minutes until diaphoresis.

In the stage of abundant discharge:

℞ Atropinæ gr. ʒ

S. Once or twice daily.

—H. B. WHITNEY.

℞ Tincturæ aconiti..... 3 ij.
 Tincturæ opii deodoratæ 3 vi.
 M. S. Eight drops in water every hour or two.

—BARTHOLOW.

Catarrhal symptoms with febrile movement and myalgia :

℞ Pulveris Doveri,
 Phenacetin..... āā gr. x.
 M. et ft. capsulas No. iv.

Give two, followed immediately by a hot bath. After the bath a hot lemonade or rum punch, and repose between several thicknesses of heated blankets. If, after half an hour, perspiration is not abundant, give the remaining two capsules and let the patient perspire for an hour, after which the skin is dried slowly and the patient retires for the night.—H. B. WHITNEY.

Bad Cold.—Gelsemium judiciously employed may avert pneumonia, pleuro-pneumonia, or other serious disease, beginning in the form of a bad cold. It arrests profuse nasal secretions, quiets headache, subdues cough and pain, and favors re-establishment of secretions.

℞ Extracti gelsemii fluidi..... gtt. x.
 (A reliable assayed preparation must be used.)
 Aquæ destillatæ..... ʒ iiij.
 M. S. Teaspoonful every ten or fifteen minutes for an hour; then at less frequent intervals, according to the effect.

—JOHN AULDE.

To relieve the acute stage :

℞ Chloral..... gr. x.
 Castor oil..... ʒ ss.
 M. S. To be applied to the nasal mucous membrane.

Or, introduce into the nasal cavities suppositories containing alumnol, oil of valerian, and menthol.—THOMALLA.

As a snuff :

℞ Cocaine..... gr. v.
 Menthol gr. iv.
 Salol..... ʒ iss.
 Boric acid..... ʒ iiij.
 M. S. A small pinch to be drawn into the nose every hour.

—LERMOYEZ.

Or a less irritating snuff:

℞ Cocainæ hydrochloratis..... gr. v.
 Mentholi gr. ij.
 Bismuthi salicylatis,
 Sacchari lactis ℥ 3 i.

M. S. Draw well up into nostrils several times daily.

Or—

℞ Cocainæ hydrochloratis gr. iiss.
 Mentholi gr. iv.
 Acidi borici..... 3 ss.
 Pulveris caffèæ gr. viij.

M. S. A small pinch in each nostril every two or three hours.

—COUPARD.

Or—

℞ Camphor,
 Tannin..... ℥ 20 gm.
 Lactose..... 4 "

To insufflate.

—SANGER.

Or—

℞ Subnitrate of bismuth 3 i.
 Powdered camphor..... gr. x.
 Powdered boric acid gr. xxx.
 Hydrochlorate of morphine gr. i.
 Hydrochlorate of cocaine..... gr. i.
 Powdered benzoin..... gr. xv.

M.

Or—

℞ Powdered talc 3 i.
 Antipyrin..... gr. xv.
 Boric acid 3 ss.
 Salicylic acid gr. iv.

M. S. Snuff freely.

—CAPITAN.

Or—

℞ Acetate of uranium..... gr. ½-iss.
 Finely powdered roasted coffee 3 iiss.

M. S. A pinch to be snuffed up the nostril two or three times a day.

A few drachms of dry salicylic acid are placed in an ordinary paper pill box, in the cover of which small pinholes are made. The box is shaken, and the nostrils are applied to the openings. This may be repeated time and again until sneezing is in-

luced, or as indicated by the amount of hyperæmia of the nasal mucous membrane.—A. J. WEGG.

℞ Pulveris cubebæ..... 3 i.
 Pulveris sacchari albi..... 3 ij.
 M. S. Use by means of insufflation.
 —WYETH.

℞ Morphinæ sulphatis..... gr. i.
 Bismuthi subnitratæ..... 3 ij.
 Pulveris acaciæ..... 3 i.
 M. S. Use by insufflation.
 —FERRIER.

℞ Pulveris belladonnæ foliæ..... gr. xx.
 Pulveris morphinæ sulphatis..... gr. ij.
 Pulveris acaciæ.... ad 3 ss.
 M. S. Blow into the anterior and posterior nares.

Or—

℞ Pulveris camphoræ..... 3 ij.
 Acidi tannici..... 3 ss.
 Pulveris sacchari albi..... ad 3 ss.
 M. S. Insufflate thoroughly twice daily.
 —LEFFERTS.

℞ Betol..... 2.5 gm.
 Menthol..... 0.25 cgm.
 Cocaine..... 0.5 cgm.
 Powdered burnt coffee..... 1.5 gm.
 M. S. Use freely in each nostril.
 —GRELLETY.

Cold in the head in infants :

℞ Argenti nitratis..... 2
 Aquæ destillatæ..... 100
 M. S. Apply with a soft brush to the throat, care being taken that the fluid does not drop into the larynx.
 —BERMANN.

In children :

℞ Pulveris acidi borici..... 3 ss.
 Glycerini..... 3 i.
 M. S. Two drops in each nostril t. i. d.
 —POWELL.

In children to keep the crusts moist :

℞ Iodoformi..... 3 ss
 Olei eucalypti..... 3 ss.-l.
 Petrolati..... q. s ad 3 ij.-ijj.
 M. S. Use as an antiseptic ointment.
 —GOODHART AND STARR.

℞ Morphinæ hydrochloratis..... gr. ij.
 Bismuthi subnitratis..... 3 ij.
 Pulveris acaciæ..... 3 iss.

M. S. Use as snuff when the swelling of the mucous membrane begins to subside.

—J. C. WILSON.*

For the rhagades, touch with a one-per-cent nitrate-of-silver solution.

℞ Sodii chloratis..... 0.5
 Acidi borici..... 1
 Aquæ destill..... 100

M. S. Use lukewarm and allow to flow into the nostrils twice daily.

Then boroglyceride-lanolin, put up in a tube to keep it pure.

Nasal and faucial catarrh :

℞ Acidi carbolici (liq.)..... ℥ xxx.
 Sodii biboratis,
 Sodii bicarbonatis..... 3 i.
 Glycerini 3 iiss.
 Aquæ q.s. ad 3 iv.

M. S. To be used as a spray.

—DOBELL.

Or, Dobell's solution:

℞ Sodii boratis 3 i.
 Glyceriti acidi carbolici 3 ij.
 Sodii bicarbonatis..... 3 i.
 Aquæ..... ad 0 i.

M. S. Use as a spray.

In catarrhal affections of the respiratory tract, formalin, one or two drops in a Jeffrey's apparatus for inhaling the vapor.

In nasal catarrh :

℞ Acidi carbolici..... ʒ i.
 Sodii boratis..... 3 i.
 Sodii bicarbonatis..... 3 i.
 Glycerini 3 i.
 Aquæ rosæ 3 i.
 Aquæ ad 0 i.

M. S. Use as a spray.

—LEFFERTS.

In the atrophic nasal catarrhs and glandular affections in children, as an alterative:

- ℞ Syrupi acidi hydriodici..... ℥ iij.
 Vini xerici..... ℥ i.
 M. S. One teaspoonful twice daily.

For "a cold":

- ℞ Ammonii carbonatis..... 3 ij.
 Syrupi tolutani,
 Aquæ rosæ..... āā ℥ iss.
 Tincturæ opii camphoratæ..... 3 ss.
 M. S. One teaspoonful in water every two hours.

—CLARENCE J. BLAKE.

To relieve discomfort of a cold, pour half a pint of boiling water over a drachm of powdered camphor and inhale the vapors for ten or twenty minutes.

Extractum hydrastis fluidum, gtt. xx.—xxx., in a little sweetened water, is found superior to most other anticatarrhal remedies.—SAENGER.

For paroxysmal cough, a teaspoonful of moderately hot water every time the paroxysm comes on.—C. E. PAGE.

Reflex Cough.—Accretion of cerumen in the ear is an occasional cause of cough, which will abate when the offending material is cleaned out.—T. J. MAYS.

Nervous cough, with intact abdominal and thoracic organs and freedom from pertussis, hysteria, and beginning phthisis; which is monotonous, involuntary, and always the same in each patient, is not improved by medication, but disappears after a sea voyage or trip to the mountains.—KOCH.

For irritative coughs:

- ℞ Phenacetin..... ℥ i.
 Extracti glycyrrhizæ..... ℥ i.
 Sacchari albi 3 ij.
 M. ft. cts. No. xx. S. One to be taken at one, two, or three hours' intervals

Or, for same of more obstinate character:

- ℞ Phenacetin..... ℥ iiss.
 Codeinæ sulphatis gr. ij.
 Sacchari albi..... 3 ij.
 M. et div. in cts. No. xx. S. As above.

—JAMES CROOK.

Ozæna.—Douche with a Weber siphon, changing the formula for the antiseptic from time to time. After each douching the nose should be sprayed with:

R Acid. phenic.....	2 gm.
Resorcin	8 "
Glycerini puri.....	50 "
Aquæ	300 "

The ulcers should be touched with silver nitrate or zinc chloride solution, and a general tonic treatment given.

After douching, a bean-sized mass of the following should be introduced into each nostril, the patient's head being bent back:

R Menthol	0.20 cgm.
Boric acid	2. gm.
White vaseline... ..	80. "
Essence of geranium.....	gtt. xx.
—BOMMIER.	

Coxalgia.

The early discovery of hip disease is as important as it is difficult, and to make out the etiological form which the process is taking requires attention to minute details.

DIAGNOSIS.—In the absence of history of injury, when there is pain, lameness, especially in the morning, and muscular contracture, and when the pain is intensified by increased inter-articular pressure, the strongest suspicions should be awakened. When there is fulness behind the trochanter and in the groin, synovial inflammation is probable. When the pain is persistent without effusion, bone implication is to be feared.

Alexandroff gives, as a diagnostic point, a hypertrophy of the subcutaneous cellulo-adipose tissue, which he believes is one of the first indications of the process. It may exist when all other symptoms are wanting. On the affected side a fold of skin lifted up is found to be from one to four millimetres thicker than on the well side, and when atrophy of the member coincides with this hypertrophy it points to a tuberculous osteo-

arthritis. For differentiation by the position of the limb, etc., works on surgery or orthopædics may be referred to.

PROGNOSIS depends upon early recognition. Though the joint may recover, visceral tuberculosis frequently proves fatal before mature age.

TREATMENT.—Absolute rest for the affected part, secured by recumbency and traction, or plaster of Paris, or fixation apparatus. General treatment as indicated for tuberculosis elsewhere.

Cretinism.

Cretinoid idiocy develops soon after birth or before the age of fifteen.

Symptoms differ, according to the age at which they begin to appear.

By sporadic cretinism we understand a peculiar condition, similar in many of its clinical features to endemic cretinism, supervening either *in utero* or some time after birth.

In congenital cretins (rare) the thyroid is practically lacking; the skin lies in thick folds, is markedly œdematous; the neck is thick; the arms and legs are short; the belly protrudes; the thickened tongue often lies between the teeth; and the body temperature is subnormal. In the endemic form synthesis of the sutures of the cranial bones takes place early, while in sporadic cretinism we find a tendency to lack of synthesis, the fontanelles and sutures remain open a long time, and dentition is delayed.—H. KOPLIK.

In the acquired form dwarfing and other symptoms similar to those of myxœdema begin to show themselves, usually between the age of two and five years. In sporadic and endemic cretinism it may be even years before the evidences of the condition are recognizable.

DIFFERENTIATION.—Rachitis presents many of the same appearances, both in the instances of infants which perish *in utero* and those which pass into childhood, but the mental de-

velopment is slower, the thyroid is absent, and myxœdematous swelling points to cretinism.

The changes in the bones of the legs under the weight of the body and the accompanying symptoms resemble rickets.

In the dwarf with idiocy there are no signs of myxœdema, the body temperature is normal, the expression of the face is neither cretinoid nor prognathous.

The Mongolian idiot resembles the cretin quite closely. There is the stunted growth, the open mouth, thick lips and large tongue, often protruding, the hoarse guttural voice, mental apathy and sluggishness, sometimes subnormal temperature, dry skin and coarse hair, flabby musculature, etc.; but there is no myxœdema, and the hands, though flat, are not saucer-like, the little finger of each hand is bent slightly at an angle internally, the skin has not the greenish hue, and the prognathous expression is not marked.—H. KOPLIK.

Hydræmic anæmia resembles myxœdema only in the puffiness of the skin of the face; the rest of the body shows no cretinoid manifestations, and the mental development is normal.

PROGNOSIS.—Life may extend to thirty or forty years, but after the twentieth year there is little or no growth or change.

Ewald knew of no instance of life prolonged beyond the thirtieth year. Osler,⁴⁹ in his collected cases, has seven beyond this age.

TREATMENT.—Chiefly, as in myxœdema, by thyroid extract. The dose should be as large as the patient will stand (gr. iss., twice daily), and increased when relapses threaten.—WEST.

In children the growth under thyroid is much greater and more regular than in the adult, and lateral curvature, so often present, is apt to be increased under the stimulus to growth caused by thyroid feeding. Cretins whose bones show softening should be kept lying down.—JOHN THOMSON.

Thyroidin has resulted in wholly reducing the swelling of

the skin and restoration of menstrual function. The psychical features were not much improved.—KRAEPLIN.

General improvement, including growth of several inches, diminution of deformities, increased intelligence, etc., may follow thyroid treatment.—RUSHTON PARKER.

Caution.—Thyroid extract may produce softening of bony tissue and increase bowing of legs; for example, as in rickets. Small doses are advised.—KINNICUTT."

Croup.

Spasmodic, catarrhal, or false croup, in contradistinction to membranous or pseudo-membranous laryngitis, or to true diphtheria, is characterized by a dry metallic cough, with crowing inspiration and husky voice, in children between one and five years old.

DIAGNOSIS.—The attack usually comes on about midnight, with dyspnœa and a peculiar barking cough, due to a combination of spasmodic action and retained secretion within the glottis. The day following the attack the child is as well as usual, but for one or two successive nights a recurrence may be safely predicted.

DIFFERENTIATION.—Diphtheria is naturally the disease most often suggested by the symptoms and the one most dreaded by the parents. Since in children with acute laryngitis there may be some prostration accompanied by febrile movement and headache, and since in its severe form considerable obstruction may exist, the differential points must be carefully weighed.

In acute catarrhal laryngitis of pseudo-membranous form, having a decided crowing cough at night and hoarseness lasting throughout the day for several days in succession, the throat may present upon examination a pseudo-membrane in which the Klebs-Loeffler bacilli are not found, but which occasions marked laryngeal obstruction. The latter is, however, much more promptly relieved by appropriate treatment than is the case in

diphtheria. A greatly enlarged thymus surrounded by swollen bronchial glands has produced symptoms simulating croup.—**BIEDERT.**

PROGNOSIS in false croup is usually good, but there is always a possibility of extension culminating in bronchitis. The possible occurrence of œdema of the glottis is also not to be overlooked in the prognostication.

TREATMENT.—*To cut short the attack*, an emetic of ipecac; hot bath at temperature of 98° to 102° F.; inhalation of steam from a croup kettle.

Tablespoonful of mustard in a quart of hot water, to make wet application about the throat.—**STIMPSON.**

To overcome spasm, inhalation of chloroform.

Caution.—Employ sparingly and with careful oversight.

Apply a cold towel to the neck and give:

℞ Vini ipecacuanhæ,
Tincturæ opii camphoratæ,
Spiritus ætheris nitrosi.....āā 3 ij.
M. S. Ten drops every hour.

—**CAILLÉ.**

℞ Chloralis hydratis..... gr. lxxv.
Potassii bromidi gr. xlv.
Ammonii bromidi..... 3 ss.
Aquæ cinnamomi..... ʒ ii.

M. S. A teaspoonful in water and repeat in twenty minutes for a child of seven years. Decrease for younger children.

—**JOSEPH HOLT.**

℞ Pulveris aluminis 3 iiss.
Mellis albi..... 3 x.

M. S. One-half teaspoonful every hour, and powdered alum blown into the throat every four hours.

—**TROUSSEAU.**

In infants:

℞ Pulveris ipecacuanhæ..... gr. ss.-i.
Sacchari albi q.s.

M. S. To be repeated every twenty minutes until vomiting takes place. After age of one year, double the dose.

—**T. H. TANNER.**

℞ Hydrargyri subsulphatis flavi gr. iiij.-v.
S. If emesis does not occur within fifteen minutes, repeat the dose.

At next visit, if the child has quick pulse, hot skin, hurried breathing, and an occasional ringing cough:

℞ Tincturæ veratri viridis..... gtt. xvi.-xxx.
 Spiritus ætheris nitrosi..... 3 ij.
 Syrupi 3 i.
 Aquæ..... 3 vi.

M. S. Teaspoonful every second hour.

—FORDYCE BARKER.

℞ Potassii chloratis..... 3 i.
 Ammonii chloridi 3 ij.
 Syrupi 3 i.
 Aquæ..... 3 ij.

M. S. 3 i. every twenty minutes to half an hour, continued night and day until cough becomes looser.

—J. LEWIS SMITH.

℞ Tincturæ aconiti gtt. vi.
 Syrupi ipecacuanhæ,
 Spiritus ætheris nitrosi 3 ij.
 Aquæ cari (vel anisi) 3 ij.

M. S. Teaspoonful for a child of two years.

—J. J. HIGGINS.

℞ Tincturæ tolutani..... 3 iss.
 Syrupi scillæ..... 3 ij.
 Tincturæ opii camphoratæ..... 3 ij.
 Glycerini 3 iss.
 Aquæ q.s. ad 3 vi.

M. S. A half-teaspoonful to be given every three hours during the day, and every four hours during the night.

For a child of eight months:

℞ Aquæ destillatæ..... 3 i.
 Potassii chloratis,
 Potassii iodidi..... 3 i.
 Mucilag. acaciæ,..... 3 ij.
 Extracti ipecacuanhæ fluidi,
 Olei copaibæ..... 3 i.

M. S. Shake. A teaspoonful every ten minutes.

After free vomiting ensues continue the same dose every half-hour or hour till the disease is cured. The dose may be regulated according to the age for other children.—JOHNSON.

In mild or superficial form:

℞ Syrupi ipecacuanhæ..... 3 ix.
 Syrupi scillæ compositæ 3 iss.
 Tincturæ opii camphoratæ 3 ij.

M. S. Half-teaspoonful every three or four hours.

—N. S. DAVIS.

In pseudo-membranous croup, treat as in diphtheria, omitting antitoxin.

℞ Potassii bichromatis..... gr. i.
Aquæ destillatæ ℥ ij.

Gives good results in three-drop doses.—MILLICAN.

℞ Vini antimonii..... 3 ij.
Syrupi papaveris..... 3 iv.
Syrupi tolutani..... 3 ij.
Aquæ ℥ i.

M. S. Give every hour in as large dose as possible without producing vomiting.

—DELAFIELD.

Inhalations :

℞ Liquoris calcis ℥ i.
For one inhalation. Repeat every two hours.

Or—

℞ Acidi tannici gr. ij.-xx.
Aquæ..... ℥ i.
For inhalation.

Or—

℞ Potassii bromidi gr. v.-x.
Aquæ ℥ i.

M.

—HERMAN BEIGEL

℞ Extracti hyoscyami fluidi..... ℥ iij.-x.
Aquæ destillatæ ℥ i.

M.

—DA COSTA.

Oxygen inhalations.—POTSDAMER.

Topically or by atomizer or spray :

℞ Argenti nitratis..... 3 ss.
Aquæ destillatæ..... 3 ij.

M.

℞ Sodii carbonatis..... 3 i.-3 ij.
Aquæ..... q.s. ad ℥ iv.

M. S. Use every half-hour.

—WHARTON.

Dip a curved rod of whalebone, with a small sponge made fast to its lower end, into this solution, press down the tongue of the child, and endeavor to reach the entrance of the glottis with the sponge. The muscular contraction which follows compresses the sponge, and a small portion of the solution reaches the larynx.—FELIX VON NIEMEYER.

R Liquoris ferri subsulphatis..... 3 i.
 Glycerini ʒ ss.

M

R Acidi carbolici fluidi 3 i.
 Aquæ ʒ vi.

M

R Bromi..... 3 ij.
 Potassii bromidi..... gr. xlv.
 Aquæ ʒ i.

M S. Twenty-four to forty drops should be added to an ounce of water.

—J. LEWIS SMITH.

To dissolve false membrane :

R Acidi lactici ʒ ss.
 Aquæ destillatæ ʒ x.

M S. In atomizer.

—MORELL MACKENZIE.

During the intervals of attack, spray the throat with a two-per-cent cocaine solution.—A. O. STIMPSON.

Cystitis.

The chief point in the diagnosis of catarrhal inflammation of the bladder, especially in the chronic form, is to determine the source of the pus found.

DIAGNOSIS.—Speaking in a general way, pus and albumin originating in the bladder are found associated with an alkaline urine and with considerable mucus. A history of an acute attack following paralysis, stricture, enlarged prostate, over-distention, etc.; or infection, as from gonorrhœa or instrumentation; or the presence of stone, etc., will materially aid.

DIFFERENTIATION.—Interstitial nephritis is simulated in some mild attacks; the absence of hyaline casts excludes it.

From pyelitis, which may occasion bladder spasm, by washing the bladder until the stream returns clear. Leave the catheter *in situ*, with the extremity just within the bladder neck and the outer end plugged. In ten or fifteen minutes draw off the accumulated urine, if this be turbid from pus wash

the bladder again. If washing returns clear, or nearly so, the probable source is above the bladder.

Cystitis from stone in the bladder is suspected when pain is referred to the glans penis, when jolting motions and exercise increase the bladder symptoms and the quantity of blood passed, and when the stream is suddenly interrupted in the passing of urine.

TREATMENT.—The first steps must be to seek out the underlying cause in some portion of the genito-urinary tract and treat it.

In catarrhal cystitis, acute and subacute, especially in women, bismuth and boric acid are very useful, applied in the following manner: to a pint of warm boiled water add a teaspoonful of a powder made up of seventy-five per cent of bismuth and twenty-five per cent of boric acid. Use a soft catheter, to which a small glass funnel has been attached. Pour into the empty bladder half of the mixture, which must be kept well stirred, and let it run out; the other half should now be poured in and permitted to remain in a few minutes, when it may be voided *per vias naturales*.—S. S. JONES.

In cystitis complicated by rheumatism :

℞ Sodii salicylatis..... 4-6 gm.
 Syrupi limonis,
 Aquæ menthæ piperitæ 60 “
 M. S. Teaspoonful every hour.

In acute blennorrhagic cystitis :

℞ Sodii biboratis..... 30 gm.
 Sodii bicarbonatis 10 “
 S. Two teaspoonfuls during the day in a quart of lemonade.

The urine may become slightly yellowish-green.—BALZER.

In tuberculous cystitis creosote takes the first rank. The diet should be abundant and extremely nourishing. Local treatment must be cautiously applied, as the bladder is exquisitely sensitive. Corrosive sublimate is beneficial in very weak solutions.—GUION.

R Olei santali gtt. vi.

Make capsule No. i. Give up to sixteen in twenty-four hours.

—WICKHAM.

In painful tuberculous cystitis :

R Guaiacol..... 5

Iodoform 1

Sterilized olive oil 100

M. S. Inject one or two grams into the bladder once or twice daily.

—COLIN.

For senile cystitis :

R Extracti hydrangæ..... 3 ij.

Tincturæ gentianæ compositæ 3 iv.

Tincturæ staphisagriæ,

Tincturæ cannabis indicæāā 3 i.

Syrupi aurantii.....q.s. ad 3 iv.

M. S. A teaspoonful three times daily.

—HOPKINS.

Irritability of the bladder after delivery :

R Salol,

Tincture of hyoscyamus.....āā 3 ij.

Infusion of buchuq.s. ad 3 vi.

M. S. Teaspoonful three times a day.

—FOTHERGILL.

R Liquoris potassæ 3 i.

Mucilag. acaciæ..... 3 ss.

Tincturæ hyoscyami.....q.s. ad 3 ij.

M. S. Dose a teaspoonful.

In acute catarrhal form with malodor :

R Amyl nitritis gtt. v.

Aquæ destill..... 3 iv.

M. S. Add 3 ss. of this solution to the proper quantity of water for a vesical injection.

In chronic cystitis :

R Acidi borici..... 3 ss.

Glycerini 3 i.

Aquæ destillatæ..... 3 λ.

M. S. For an injection into the bladder. At moment of employment, mix it with an equal part of warm water.

—ULTZMANN.

R Acidi oxalici gr. xvi.

Syrupi aurantii..... 3 i.

Aquæq.s. ad 3 iv.

M. S. Teaspoonful every four hours.

—A. W. MARSH.

To prevent decomposition of urine, lycetol is superior to salol.—HAMONIC.

Cystitis in Females.—To neutralize alkaline urine, five grains of benzoic acid in capsule every three hours. Large draughts of water after each dose.

In ammoniacal decomposition, five grains of salol, in capsule, every two hours until the urine is acid.—BLOOM.

For washing out bladder :

℞ Argenti nitratis..... gr. xv.
Aquæ destill..... O ij.

In ammoniacal cystitis, irrigate with—

℞ Acidi citrici..... gr. x.
Aquæ destill O i.

followed by a ten to twenty per cent solution of bynin (liquid extract of malt).—SIR WILLIAM ROBERTS.

For irrigation, potassii permanganatis (1–1,200 to 1–400 solution), or acetanilid (1–200), boric acid (3 per cent), silver (1–400).

In gonorrhæal vesical irritability in females, after cleansing the urethra with bichloride solution apply pure ichthyol and give:

℞ Ichthyoli ℥ij.
Olei santali..... ℥v.

M. S. In capsule every three hours.
—BLOOM.

Dengue.

Breakbone fever of tropical and subtropical countries occurs also in the southern portion of this country, but rarely extends so far north as New York. It is an epidemic disease of mild form and short fever period, but is attended with very severe pains closely simulating those of muscular and articular rheumatism. There is, also, more or less constantly observed an eruption of a scarlatiniform variety of erythema.

DIAGNOSIS.—The incubation varies from two to five days, followed by sudden onset. There are rigors, with headache and general deep-seated pains, as though located in the very

bones. The fever may reach as high a point as 106° F. Anorexia is marked; vomiting not uncommon; the tongue has a peculiarly yellowish coating. The pulse keeps pace with the attending rise of temperature. The eyes are red, and the face is usually turgid. There may be two paroxysms of fever, though usually the fever range takes a sudden upward course, with a lull after it attains its maximum, on about the second day. The eruption occurring about the fifth day has no constant features, at times resembling urticaria, at other times being more finely papular, and it occurs in groups, first upon the upper portion of the body. It is accompanied by most intense itching and is followed by desquamation.

Glandular enlargements are observed after the second access of fever, and implicate the lymphatic system of the neck, armpits, and groins. The distinguishing feature is the tendency to relapse after apparently full recovery.

DIFFERENTIATION.—This disease is especially to be distinguished from yellow fever by its lasting some five days longer, by the yellowness of the tongue, by the eruption, absence of jaundice, albumin, glandular enlargements, mild course, and the fact that the pulse does not become slower, while the temperature rises, as is the case in yellow fever.

In distinguishing dengue from influenza, the climatic conditions, the absence of respiratory involvement, and the more frequent presence of eruption aid us.

From malaria it is to be distinguished by an examination of the blood. From the exanthemata by the eruption (morbilliform, rubellic, scarlatiniform), not always occurring early, not having definite distribution, being followed by desquamation and itchiness, by the absence of catarrhal symptoms, etc.

PROGNOSIS is favorable.

TREATMENT.—It is well to administer calomel at the onset, but, it being a self-limited benign fever, symptomatic treatment is usually sufficient.

For an adult at the onset :

℞ Hydrargyri chloridi mitis. gr. vi.
 Phenacetin. 3 ss.
 Quininæ bisulphatis. gr. xv.
 M. et div. in capsulas No. ix. S. Three every three hours.

—HAMILTON WEST.

To cut short an attack :

℞ Morphinæ sulphatis. gr. $\frac{1}{2}$
 Atropinæ sulphatis. gr. $\frac{1}{16}$
 Hypodermatically.

Supplemented by:

℞ Phenacetin. gr. x.
 Antipyrin. gr. v.
 M. S. Every two hours.

In prostration give alcoholics.—TYSON.

To relieve violent pains :

℞ Tincturæ colchici eminis. 3 i.
 Spiritus ætheris nitrosi. 3 iv.
 Potassii nitratis. ʒ ij.
 Aquæ. ad 3 iv.
 M. S. Tablespoonful every two hours until profuse diaphoresis.

—CARPENTER.

Diabetes Insipidus.

Polyuria is a symptom in a great variety of conditions, including hysteria, cerebral syphilis, fibroid nephritis, as well as in the affection under consideration. Here it may develop gradually or suddenly. The urine has a specific gravity little over 1000, is passed in large quantities, is attended with excessive thirst, and in mild cases there may be no further symptoms. In the more severe form there may be headache or neuralgia, dryness of the skin, vertigo, weakness, hebetude, and loss of flesh. The condition may be associated with, and perhaps depend upon, polydipsia.

DIFFERENTIATION.—In hysteria the polyuria is of short duration, and other manifestations of hysteria will show themselves.

The increased quantity of urine due to chronic interstitial nephritis will present other manifestations of this disease

That due to syphilis is distinguished by the history and the occurrence of other cerebral symptoms.

In diabetes mellitus sugar is found on testing.

PROGNOSIS.—The condition may persist throughout life without seriously affecting the general condition.

Polyuria depending upon syphilis is about the only form strictly amenable to treatment.

It may be a forerunner of general paralysis of the insane or of serious brain or spinal disease.

TREATMENT.—*Electrization of the Medulla Oblongata.*—The positive pole was applied to the back of the neck by means of a large electrode; the negative insulated almost to the point was passed along the floor of the nostril until it rested on the cervical spine. Gradual increase from half to five milliamperes, for from one to five minutes.—ROBERTSON.

℞ Pulveris opii..... gr. iv.
 Acidi gallici..... ʒ ij.
 M. ft. chart. No. xii. S. One, three or four times daily.

—H. C. WOOD.

Or—

℞ Extracti ergotæ fluidi 3 ss.-i.
 S. To be given in water three times daily.

—DA COSTA.

Or—

℞ Acidi gallici..... gr. xv.
 Pulveris opii gr. i.
 M. S. For one powder. Three such daily.

When of specific origin, potassium iodide, alone or combined with mercurials.

In nervous and excitable subjects, elixir ammoniæ valerianatis, ʒ iv. Dessertspoonful every three or four hours.

In children, cod-liver oil; ferruginous preparations; gly-cero-phosphate of iron (Robin); diet free from sweets and with a minimum of liquids.

Diabetes Mellitus.

Many instances of this affection progress for a considerable period before coming under observation. Many others are detected, as it were, accidentally, through life-insurance examinations or when careful examination of the urine is made for any cause. There are certain indications, however, which should always lead to investigation in this direction. These include dryness of the skin; the occurrence of furunculosis, carbuncle, eczema not attributable to other cause; pruritus, especially about the genitals; loss of flesh and strength without known cause; the development of excessive thirst and a desire for sweets, and excessive appetite not appeased by ordinary amounts of food, the thirst perhaps being greater just after a meal; and, last, but not least, marked decrease in sexual power. The urine is increased in amount and in specific gravity, which may reach 1045, and it is shown by tests to contain sugar.

When diminution of the sugar occurs there may be an increase in the quantity of oxalates.

DIAGNOSIS.—The first symptom which may attract the patient's attention, if he be a male, is the fact that white specks are deposited upon the trousers legs and shoes from the spattering in urinating, or the last drops that lodge upon dark clothing may leave upon evaporation a similar minute dot of sugar.

The skin soon becomes dry from lack of perspiration, and is affected with itching. In the acute and rapid form the bodily weakness increases almost from day to day, which fact the patient cannot reconcile with his ravenous appetite and the amount of food taken. In the more gradual onset, especially of advanced life, glycosuria may exist for a long time without occasioning prominent symptoms. In the prodromal stage there may be obesity, gastro-intestinal disturbances, diminished sexual inclinations, nervousness, perhaps hypochondriasis, shooting pains, and skin changes.—STERN.

Failure of sight is due to an affection of the retina in which circular spots of white have a grouped arrangement over the fundus. The appearances are said to be typical of the affection, especially when some of the spots have pigmented borders.

If Fehling's solution is used to detect the sugar, it should be freshly prepared or the ingredients kept in two separate bottles, to obviate error.

R. T. Williamson says that diabetic blood removes the blue color from a solution of methyl blue much more completely than does non-diabetic blood.

The following is the exact method employed: In a narrow test tube is placed forty cubic millimetres of water (the capillary tube of a Gowers hæmoglobinometer, which is marked for twenty centimetres, may be used for measuring the fluid); twenty cubic millimetres of blood is added, and then one cubic centimetre of a 1 in 6,000 watery solution of methyl blue and afterward forty cubic millimetres of liquor potassæ. The tube is then placed in a capsule or vessel containing water, which is kept boiling. At the end of four minutes the blue color disappears and the fluid becomes yellow if diabetic blood has been used, but in the case of non-diabetic blood the blue color remains.

The Phenyl Hydrazin Test. A small quantity of the crystalline scales is warmed with twice its weight of sodium acetate; an equal volume of suspected urine is added, and, on boiling and cooling, yellow crystals are deposited if sugar is present.

To detect diabetes in its earliest stage, or even the hereditary tendency to it, give one hundred grains of grape sugar. In the incipient diabetic this produces glycosuria, but has no effect on a healthy subject.—VON NOORDEN.

DIFFERENTIATION.—Symptoms referable to the stomach may cause this organ to be suspected for a long time as the seat of trouble unless the urine is carefully examined. Traumatic glycosuria, due to a variety of causes, including the too free

use of sweet wines, may even be attended with crops of boils and still not justify the diagnosis of diabetes. Sugar is also present in some instances of disease of the pancreas.

Essential or symptomatic polyuria may bring diabetes into question, but a test shows sugar to be absent.

PROGNOSIS varies with the patient's age, and the period at which treatment is begun and the etiological form present. When the disease has established itself firmly, undetected or untreated, in the young adult, the prognosis is most unfavorable. When, on the other hand, it attacks the gouty, rheumatic, and especially the obese subject beyond the middle years of life, recovery may take place, at least up to a point at which the symptoms no longer occasion distress or alarm, provided necessary treatment and diet be observed. In diabetes depending upon nerve lesions the prognosis is not so favorable. If syphilis can be established as the causative factor, the outlook under specific medication is good.

TREATMENT.—Together with rigid diet, Clemen's solution of arsenic is my sheet anchor.—POTTER.

DIET: A stereotyped diet should not be prescribed; orthodox diet is a pretense. The starch of cereals is more productive of glycosuria than that of potatoes.

Begin with strict diet, and add carbohydrates as experimental observation warrants.

If sugar disappears, we may allow experimentally a potato and milk. Light wine may be used cautiously.—ROBERT SAUNDBY.

Diet must be changed according to age; the very young will not stand a strict hydrocarbon diet.—A. JACOBI.

Considerable liberty in diet is safe in old people.—LINDSAY.

If the urea decreases considerably, eggs and meat must be supplied.—ROBIN.

To prevent sugar from getting into the urine, keep it from the intestines by stopping carbohydrates for a time.—PAVY.

Allowed.

(a) Dishes. Meats of every kind, beef, veal, mutton, game, fowl, brain, pancreas, calves' feet, calves' head (soup), smoked meat, tongue, ham, sausage, tripe, kidneys, all fish, oysters, clams, snails, caviar, sardines, anchovies, crabs, lobsters, calves'-feet jelly, butter, cheese, fat, bacon, eggs in any form.

Soups. Bouillon, beef tea, egg soup, turtle and mock-turtle soup.

Vegetables. All green vegetables, *e.g.*, spinach, lettuce, endive, cabbage, sauerkraut, asparagus stalks, cress, artichoke, radishes, string beans; mushrooms, nuts, almonds.

In moderate quantity, cauliflower, asparagus tops, strawberries, currants, sour apples, American compote.

(b) Liquids. Water, soda water, simple acidulous water (Gieshübler, Apollinaris); tea, coffee (without sugar or milk); Bordeaux wines; light Austrian, Hungarian, and Moselle wines.

In moderate quantity, cream, brandy, whiskey, rum, lemonade and milk of almonds (not sweetened), Pilsener bitter beer.

Forbidden.

(a) Dishes. Liver, flour of any kind (bread, rolls, zwieback, in small quantity according to the physician's instructions), sugar, molasses, honey, potatoes, rice, sago, hominy, beans, beets, peas, tomatoes, carrots, celery, parsnips, chestnuts, and all sweet fruits, whether uncooked or as compote.

(b) Liquids. Milk, champagne, beer, cider, sweet-fruit wines, liqueurs, fruit essences, ice creams, cocoa, chocolate.—**SEESEN.**

American store cheese is a valuable food stuff in the pre-glycosuric stage.—**STERN.**

Encourage temperate eating and cut down the diet list.—**MURDOCK.**

Severe regimen is not necessary if not more than 30 gm. of sugar are being passed daily, provided the patient is not losing weight. Since lactose is not transformed into glucose, milk may be taken. Stimulants are interdicted.—J. H. REED.

The diet should be strictly antidiabetic, with just so much starchy food as the patient will be found to tolerate in any given case, by experiment, the average being about an ounce and one-half of American wheat flour or its equivalent in the twenty-four hours.—R. C. M. PAGE.

Carbohydrates should be administered to the diabetic to prevent the formation of certain toxic bodies and the severe and often fatal nervous and cerebral symptoms which they induce.

Sugar must, even more than in health, be allowed, in order to prevent loss of weight and muscular weakness, which may eventuate in one of the natural endings of diabetes, death by asthenia.—E. J. M. MUNSON.

One of the most important points in treatment is to send the patient to an entirely different climate. The use of drugs, when employed as specifics, cannot be too strongly condemned. Unless aimed purely at supporting some organ or function they are more likely to prove injurious than otherwise. Opium holds out no hope of cure. It not only adds to the suffering and discomfort, but hastens the progress. Drugs of the antipyrin and salicyl series often cause albuminuria.—C. W. PURDY.

Codeine, gr. ss., twice or thrice daily.—ORD.

Liquor arsenici hydrochlorici (P. B.), gtt. x., to be given three times daily, with hydrochloric acid and strychnine in the forenoon, and without these additions in the afternoon.—MURRAY.²⁷

So long as opium effects a reduction in the amount of sugar, we may safely increase the dose. Glycosurics are singularly tolerant. A combination of liquor opii and acetate of morphine in solution is the best preparation.—RALFE.

Opium, morphine, and codeine all possess the power of checking the elimination of sugar in the urine. Of the three, codeine is the best. Begin with one-half a grain, and increase gradually to ten grains twice daily.—F. W. PAVY.

In the adult, to check excessive urination and to improve the condition, uranium nitrate, gr. i., gradually increased to gr. x. t.i.d.—SAMUEL WEST.

In children, to take the place of sugar :

℞ Saccharini. gr. xlv.
 Sodii bicarbonatis 3 ss.
 Mannitæ ʒ ij.
 Mucilag. acaciæ q.s.
 M. et ft. tabl. No c.

To lessen the quantity of sugar :

℞ Antipyrin 3 iij.
 Glycerini ʒ i.
 Aquæ ʒ viij.
 M. S. Teaspoonful every three hours.

—JOSIAS.

℞ Sulphate of strychnine gr. $\frac{1}{100}$
 Arseniate of sodium gr. $\frac{1}{10}$
 Pure codeine gr. $\frac{1}{2}$
 Valerianate of quinine gr. i.
 Extract of valerian, a sufficient quantity to make one pill.

M. S. From one to six of these pills may be given each day.

—LEGENDRE.

℞ Sodii arseniatis gr. i.
 Lithii carbonatis ʒ i.
 Codeinæ gr. iiss.
 Extracti cinchonæ (dry). ʒ iv.

M. Make into thirty cachets. S. One to be taken after breakfast and one after dinner.

—ROBIN.

For the dry tongue :

℞ Pilocarpinæ nitratis gr. $\frac{1}{2}$
 Spiritus vini diluti ℥ xx.
 Aquæ ʒ i.

M. S. The tongue is to be moistened with five or six drops of this solution four or five times daily.

To lessen the thirst :

℞ Infusi cascarillæ..... 0 i.
 S. A wineglassful three or four times daily.

—DA COSTA.

Drink for diabetics :

℞ Acid. citrici..... 1 gm.
 Glycerini,
 Sp. vini gallici.....āā 50 "
 Aq. destill..... 500 "

℞ Ammonii phosphatis,
 Ammonii carbonatis.....āā gr. x.
 Spiritus ammoniæ aromatici..... ℥ xxx.
 Aquæ..... ʒ i.

M. S. Add to this the juice of a fresh lemon and take thrice daily.

—BASHAM.

℞ Tincturæ ferri chloridi..... ʒ vi.
 Acidi nitrohydrochlorici..... gtt. lxxx.

M. S. Twenty drops thrice daily.

—NAPHEYS.

In thin subjects with faulty assimilation :

℞ Acidi arseniosi..... gr. iv.
 Pulveris opii..... gr. viij.
 Ammonii chloridi..... ʒ ss.

M. et ft. pil. xxxii. S. One pill thrice daily after meals.

—MARCUS.

In obese persons, and when of hepatic origin :

℞ Aloes Capensis..... ʒ v.
 Sodii bicarbonatis..... ʒ iss.
 Spiritus lavandulæ comp..... ʒ ss.
 Aquæ destillatæ..... 0 i.

Macerate per dies quattuordecim et cola. S. Teaspoonful thrice daily after meals.

—METTAUER.

℞ Extracti jambulæ fluidi..... ʒ i.
 Liquoris arsenii bromidi..... ʒ ij.
 Aquæ destillatæ..... ad ʒ ij.

M. S. Half a teaspoonful in water three times a day.

—H. G. McCORMICK.

In epileptoid attacks of uræmic nature and in the presence of acetone, antipyrin, gr. x., t.i.d.—GRAVES.

Caution.—In larger dose this drug may irritate the kidneys. The effects of antipyrin are only fleeting.—MOUSSE.

℞ Lithii carbonatis gr. xxx.
 Sodii arseniatis gr. i.
 Extracti gentianæ gr. xv.
 M. ft. massa et in pil. No. xx. div. S. One pill morning and evening.
 —VIGIER.

℞ Sodii salicylatis 3 iij.
 Liquoris potassii arsenitis 3 i.
 Glycerini 3 i.
 Aquæ cinnamomi ad 3 iij.
 M. S. Teaspoonful to a tablespoonful t.i.d.
 —J. C. WILSON.

In children with glycosuria, strontium bromide, p. r. n.

Also in the obese and gouty. Obese patients who are not outy do better on sodium phosphate. Levulose may be given as a sweetening agent *ad libitum*, and to emaciated patients it should be given in doses of one or two drachms after meals or one ounce during the day.—SOLIS-COHEN.

℞ Antipyrin gr. xv.
 Sod. bicarb. gr. viij.
 M. S. Give morning and night.
 —J. H. REED.

A teaspoonful of beer yeast before each meal, continued for a long time.—BOULLAUD.

Breuer's yeast, in dose of one to three teaspoonfuls, causes diminution in sugar, increase in weight and strength.—BEYLOT.

Clemen's solution :

℞ Potassii carbonatis,
 Acidi arseniosi 3 i.
 Aquæ destillatæ 3 x.
 Boil until clear solution ; when cold add :
 ℞ Bromi 3 ij.
 Aquæ 3 xij.
 When the color has disappeared it is ready for use.
 S. One to five drops once or twice daily.

Complications.—When complicated with nephritis the least injurious food is milk.—HENRY.

In gouty and rheumatic subjects, an alkaline course or salol (thirty-grain doses three times daily).—NICOLAÏER.

Caution.—Should not be employed if there is kidney disease or toxic effects develop.

In the obstinate constipation of diabetics, glycerin, 3 ij.-x, as a rectal injection three or four times a week.—TESCHEMACHER.

℞ Glycerini (C. P.)..... 3 i.

Acidi citrici gr. ij.-iv

M. S. One-half to one and one-half teaspoonfuls, gradually increased and well diluted, an hour after each meal.

Caution.—Watch for intestinal disturbance from the glycerin.—DAVIS.

Bromide of arsenic and gold, air baths, warm baths, steam baths, and massage.—HEINRICH STERN.

Chloride of gold and sodium.—J. A. ROBINSON.

Jambul is the best remedy in diabetes, gr. v.-xxx.—KAZAN.

℞ Jambul 50

Buckthorn 20

Celery 5

Aromatics 25

M. Teaspoonful t.i.d.

—WILCOX.¹⁰

In diabetic coma, prophylaxis includes the avoidance of constipation, muscular fatigue, nervous shock, exposure to cold, hardships, etc.—FUTCHER.

Avoid drastic purgatives.

In the prodromal approach of coma vary the diet. If carbohydrates have been taken in excess, reduce them and replace with proteids and fats, and *vice versa*. Give large quantities of alcohol in divided doses.

Large quantities of alkalies have been recommended.

Sodium bicarbonate, ʒ iss.-ʒ ij., as a daily dose, added to Vichy water, or by rectal injection in a pint of hot water.

When the prodromal dyspnœa first appears:

℞ Sodii chloridi..... 7 gm.

Sodii bicarbonatis..... 10 gm.

Aquæ destill. (steriliz.)..... 1 litre.

M. S. Use two litres for intravenous transfusion.

—LÉPINE.

I would warn against too precipitate withdrawal of carbohydrates. This may be speedily followed by the development of coma, probably because of the readiness with which proteid food yields acids in the course of its decomposition. To avoid this the alkaline treatment should be instituted prior to the reduction of carbohydrates.—J. S. ELY.

Intravenous injection of three to five per cent solution of carbonate of sodium.—STADELMANN.

The amount of alkaline fluid necessary cannot well be administered by mouth or subcutaneously. Large doses of castor oil.—SCHMITZ.

Diabetic albuminuria, if phosphatic :

℞ Sodii arseniatis..... gr. ss.
Potassii iodidi..... gr. xlvij.
Aquæ destillatæ..... vi.

M. S. Tablespoonful in a small glass of milk half an hour before eating, morning and night.

As a tonic :

℞ Extracti cinchonæ..... gr. iss.
Quininæ sulphatis..... gr. iss.
Extracti nucis vomicæ..... gr. ½

M. ft. pil. No. i. S. One pill at breakfast and at dinner.

After a fortnight :

℞ Calcii glycerophosphatis,
Magnesii glycerophosphatis..... ãã gr. iss.
Extracti nucis vomicæ..... gr. ½

M. ft. cht. No. i. S. One at breakfast and dinner daily.

—ROBIN.

In gastro-intestinal disturbances a return to a mixed diet may be required. Lactate of strontium acts well at times. It may be combined with—

℞ Acidi gallici..... 0.10–0.15
Pulveris aloes Socotrinæ..... 0.02–0.05
Extracti cinchonæ (dry)..... 0.15

M. S. For one pill. Four such in twenty-four hours.

—ROBIN.

Diarrhœa.

It may be argued that diarrhœa is a symptom and not a disease, but we are not yet prepared to banish the name. The functional disorders covered by it are not at all likely to become confused with diarrhœa as a symptom of the ulcerative processes in tuberculosis and typhoid.

DIFFERENTIATION between the various forms of diarrhœa is of importance, since from this symptom alone the etiological diagnosis of the underlying cause may often be made.

In catarrhal diarrhœa the passages are of fæcal nature plus a small amount of watery fluid, the consistence is soft, the color light, and the form may be in a measure retained. The catarrhal inflammation due to the presence of micro-organisms is the most frequent form encountered in children.

In acute diarrhœa there are abdominal uneasiness and griping, and the passages may after a time become almost colorless.

In diarrhœa occurring in the summer months, due to indigestible and irritating food and especially in those whose liver functions are abnormal, the stools present an appearance which has given to this form the name of "bilious diarrhœa."

The term dyspeptic diarrhœa has been employed in describing passages in which particles of undigested food are found, and the fæces occur as scybalous masses floating in an excess of watery discharge. There is often much mucus present. When the mucous discharges contain specks of bright colored blood, or at times a small quantity of unmixed blood, hemorrhoids are first of all to be excluded and we must make sure that the case is not one of typhoid with ulceration. Minute tinges of bright blood scattered here and there and any excess of mucus point to a much inflamed large intestine as the source of hemorrhage. Infective diarrhœa presents signs of greater nerve prostration than the frequency of passages would seem to explain. It is probable that most infantile diarrhœas of summer belong to this class.

Chronic diarrhœa when alternating with constipation is indicative of chronic enteritis. There is usually a sense of weight in the abdomen and considerable mucus is passed, by itself or more or less intimately mixed with fæcal matter. The subjective symptoms in the adult include an irritability of temper associated perhaps with hypochondriasis, and, from the long duration of the disease the patient becomes worn out, emaciated, and unfit for ordinary occupations. It often exists as one of the symptoms of tuberculosis.

Chronic diarrhœa in infants is always due to some fault in feeding, even when the child is breast fed.

Nervous diarrhœa is mostly encountered in neurasthenic or in hysterical or otherwise nervously affected individuals. It is an admitted clinical fact that sudden fright as well as various strong emotions may cause an immediate attack of diarrhœa. The influence of the nervous system is seen too in the acute attacks which occur in subjects of tabes. Nervous diarrhœa in teething children is to be distinguished from ileo-colitis, in which there is much more mucus, and from cholera infantum, in which there is an abundant serous discharge. The character of the stools in nervous diarrhœa is usually watery, and they are free from blood or mucus.

If a diarrhœa assumes an intermittent type, particularly in a malarious country, it is well to include quinine with the drugs employed for its cure.

Membranous diarrhœa may be of subacute form with severe griping pains, and a looseness of the bowels may alternate with constipation.

When there is much mucus, the large intestine is usually involved.

In colitis of mild degree the fæcal mass may be coated over with a layer of tenacious mucus. Here the evacuations are frequent and characterized by marked tenesmus and the presence of more or less blood with slimy mucus.

Colitis is distinguished from the various diarrhoeas by the varying characters of the latter already enumerated, and by the presence of pain along the course of the large intestine. In ulcerative disease of the rectum there will be local pain, and an examination will often make it possible to exclude this as well as hemorrhoids as the source of bleeding.

TREATMENT.—So far as possible the sources of intestinal irritation are to be removed. Food may usually be withheld for a time with benefit and without ill consequences. Intestinal irrigation per rectum, perhaps with the aid of a high-reaching tube (soft-rubber catheter in the case of infants), often gives excellent results. In considering intestinal antiseptics, do not lose sight of the antiseptic and curative properties of normal secretions, which may be increased by such drugs as calomel even in small dose.

In diarrhoea not attended with pain :

℞ Hydrargyri cum cretâ gr. iij.
 Pepsini puri,
 Extr. pancreatini ãã 3 ss.
 Bismuthi subnitratis 3 vi.
 M. et div. in char. No. xii. S. One every two hours.

—L. F. DONOHUE.

For diarrhoea with cramps, in the adult :

℞ Tinct. opii deodoratæ,
 Spiritus camphoræ,
 Spiritus ætheris comp ãã 3 ij.
 Chloroformi purif 3 i.
 Acidi carbolicæ gr. x.
 Spiritus vini rect. ad 3 iij.
 M. S. One to two teaspoonfuls in wineglassful of water every two hours.

—E. J. LORENZE.

For vomiting, in the course of intestinal affections :

℞ Menthol 0.5 gm.
 Cognac 40 "
 Tinct. of opium 10 "
 M. S. Take twenty drops in water several times daily.

—PICK.

- ℞ Olei ricini ℥ xxiv.
 Spiritus chloroformi..... 3 iss.
 Sol. morphinæ hydrochloratis (1%) 3 i.
 Pulveris acaciæ..... 3 iiss.
 Syrupi 3 ss.
 Aquæ.....ad 3 iv.
 M. S. A small teaspoonful every hour and a half till the bowels are quieted.

—DAVID YOUNG.

- ℞ Olei ricini.. 3 ij.
 Pulveris acaciæ 3 i.
 Tinct. opii ℥ viij.
 Syrupi 3 ij.
 Aquæ caruiq.s. ad 3 ij.

- M. S. Tablespoonful for a child six years old.

—THOMAS HILLIER.

- ℞ Olei terebinthinæ..... 3 ij.
 Liquoris potassæ..... 3 iv.
 Mucilag. acaciæ,
 Syrupi papaveris,
 Syrupi aurantii florum.....āā 3 i.
 Aquæ camphoræ.....ad 3 viij.

- M. S. Tablespoonful every four hours.

—R. P. WHITE.

- ℞ Acidi tannici ʒ iv.
 Tinct. opii..... ℥ xl.
 Glycerini 3 ss.
 Aquæ menthæ piperitæ.....ad 3 iv

- M. S. Tablespoonful in half an ounce of water every four hours.

—CHARLES MURCHISON.

- ℞ Acidi lactici 3 iiss.-ij.
 Syrupi. 3 vi.
 Aquæ..... 3 viij.

- M. S. Half a tumblerful to be taken between each meal.

—GEORGES HAYEM.

In acute or obstinate chronic forms :

- ℞ Acidi sulphurici aromatici 3 iss.
 Tinct. opii deodoratæ 3 i.
 Strychninæ sulphatis..... gr. ss.
 Spiritus lavandulæ comp..... 3 ss.
 Aquæ camphoræ.....q.s. ad 3 vi.

- M. S. One teaspoonful for an adult every four hours.

—MURRAY.

In tuberculous enteritis :

- ℞ Pulveris Doveri..... 3 iiss.
 Pulveris cretæ comp.,
 Pulveris calumbæāā 3 v.

- M. et div. in cht. No. lx. S. Two or three each day.

—LIEGOIS.

Choleraic diarrhœa :

- ℞ Tinct. opii..... 4
 Spiritus menthæ piperitæ,
 Spiritus ætheris comp.....āā 8

M. S. Twenty drops four or five times a day.

—ROSAHUSKY.

Or—

- ℞ Tinct. opii,
 Tinct. capsici,
 Spiritus camphoræāā 3 iij. + ℥ xij.
 Chloroformi 3 i. + ℥ iv.
 Alcoholis.....ad 3 iij.

M. S. Teaspoonful the dose.

—SCUTIBB.

For a child of two years :

- ℞ Acidi sulphurici aromatici gtt. xl.
 Morphinae sulphatis..... gr. ss.
 Elixir simplicis..... 3 i.
 Aquæ puræ.....q.s. ad 3 iv

M. S. The dose a teaspoonful.

—WM. PEPPER.

For an infant :

- ℞ Papainæ puræ gr. ix.
 Acidi lactici 3 ss
 Syrupi simplicis..... 3 iss.
 Aquæ destillatæ..... 3 v.
 Tinct. vanillæ q.s.

M. S. Coffeespoonful after each nursing.

—TOUSSAINT.

In summer diarrhœa :

- ℞ Benzonaphtholi,
 Bismuthi salicylatis,
 Pulveris Doveriāā gr. v.

M. S. To be given every two, three, or four hours to a child two years old.

—S. SOLIS-COHEN.

To disinfect the intestine, a solution in castor oil is best, because evacuation of the intestine and antiseptics go together.

- ℞ Alphanaphtholi..... gr. xlv.
 Chloroformi..... ℥ v.
 Olei menthæ piperitæ ℥ ij.
 Olei riciniad 3 iij.

M. S. One tablespoonful for a dose.

—MAXIMOWITSCH.

Carbolic acid.—J. B. WHITE.

Intestinal antiseptics.—HOLT.

High washings, and milk with the casein removed by adding essence of pepsin, white of egg being used to take its place.—WILLON BROWN.

Withdraw all food for twelve to twenty-four hours and give only sterilized water, or, in fermental diarrhœa, barley water.—

J. T. OSBORNE.

In acute gastro-intestinal catarrh, with nausea, vomiting, and pains accompanying diarrhœa:

℞ Extr. hæmatoxyli 3 ij.
Acidi sulphurici aromatici 3 ij.
Tinct. opii camphoratæ 3 iij.

M. S. Teaspoonful every three hours or less often if bowels do not move frequently.

In both acute and chronic cases :

℞ Sodii phosphatis gr. xv.-xxx.
Give in hot water.

—UPSHUR.

To quiet the restlessness in subacute or chronic forms :

℞ Sulfonal gr ss
Sodii bromidi gr. ij.
Spiritus menthæ piperitæ gtt. x.
Aquæ camphoræ 3 i.

M. S. Dose to be repeated every two or three hours.

—WELLS.

In chronic gastric catarrh associated with excessive secretion of mucus, lavage to stimulate the gastric glands.—JOSEPH.

Summer Diarrhœa of Children.—Eliminate all decomposing food by cathartics, lavage, and irrigation of the colon. Drugs are secondary to prevention and management.—RARDIN.

To correct acidity and expel contents of canal, magnesii sulphas, 3 i., at dose before meals.—S. PATTERSON.

Starvation will cure many cases. White of egg and water or broths furnish a favorite diet.—KOPLIK.

Chronic Diarrhœa of Infants.—Large irrigations of warm boric-acid solution every day or every second day. A pressure of from one to three feet is sufficient and the fluid should enter the colon slowly. The child lies on the back with a cushion under the left hip, so that the cæcum may be low, to favor the entrance of the solution.—DAUCHEZ.

Acute, Subacute, and Chronic Enteritis in Children.—Tannin, 0.2 to 0.5, three times daily to infants under one year; and 0.5 to 1 in older children. It is given in water, milk, or soup.—DREWS.

In many diseases of the infantile intestine the three principles of truest antiseptic treatment—

1. Thorough asepsis and cleanliness;
2. Free drainage;
3. Freedom from irritation, and perfect rest—

summarize the indications which should guide us.—L. SYMES.

Summer Diarrhœa.—*Healthy bile* is the great physiological intestinal antiseptic. The one agent which will secure flushing from the pylorus downward is calomel, gr. $\frac{1}{8}$ – $\frac{1}{4}$, in the beginning of treatment, combined with bicarbonate of sodium.

Spiced poultice is a homely remedy of decided utility.—

How to Make a Spiced Poultice.—Mix one teaspoonful each of mustard, ginger, black pepper, cinnamon, cloves, nutmeg, and allspice in a dry bowl. Unless this is done the mustard will lump when hot water is added. Add boiling water, little by little, with constant stirring, until the mass is of the consistence of soft putty. Too much water will cause the poultice to run through the meshes of the cloth; too little leaves the poultice so dry that it fails to hold together and the spices soon separate and rattle out. After thorough mixing put the poultice, steaming hot, into the middle of a thin handkerchief or similar square piece of cloth, and spread out the fragrant mass to about the size of your open hand; fold over it one side of the cloth, then the other side, and finally the two ends. It may be left in place all night without danger of blistering. Cold or lukewarm water fails utterly to bring out the peculiar anodyne quality.—G. D. HERSEY.

After castor oil or calomel :

- R** Salicylate of phenyl 3 i.
 Salicylate of bismuth... .. 3 iij
 Oil of gaultheria ℥ xij.
 Chalk mixture..... to make ℥ iij.
M. S 3 ij. every two hours. Opium may be added if there is much pain.
 —GRIFFITH.

After exposure to extreme heat :

- R** Pulveris Doveri..... gr. i.
 Hydrargyri cum cretâ..... gr. i.
 Pulveris rhei gr. i.-ij.
M. S. Three or four times daily.
 —LIEGOIS.

Or—

- R** Bismuthi subnitratis..... 3 ss.
 Tinct. opii..... gtt. xx.
 Syrupi ipecacuanhæ,
 Syrupi rhei aromaticiāā 3 iv.
 Listerini ℥ ss.
 Misturæ cretæ..... ℥ i.
M. S. Teaspoonful once in three or four hours for a child ten or twelve months old.
 —ROBERTS.

In infants who begin to vomit withdraw milk and give a few drops of brandy in sterilized water. At end of twelve hours or longer begin giving fresh beef juice, panopepton, or albumen water.—WELLS.

For a child of ten or twelve months :

- R** Bismuthi salicylatis 3 i.
 Pulv. ipecacuanhæ et opii gr. x.
 Pulv. aromatici ℥ i.
M. ft. chart. No. xii. S. One every three or four hours.

Or—

When stools are “jelly-like”:

- R** Hydrargyri chloridi corrosivi gr. ʒ
 Liq. potassii arsenitis..... gtt. xxxij.
 Syrupi rhei,
 Syrupi rubiāā 3 ij
 Listerini.....q.s. ad ℥ ij
M. S. Fifteen to twenty drops every one or two hours.

Infectious Diarrhœa in Infants.—Stop the food supply. Remove the products of imperfect digestion from the intestinal tract by irrigation, continued until the water returns free from admixture of fæcal matter. Inject solution of twenty grains of tannic acid in a pint or more of sterilized water, and have it retained in the bowel about an hour. When vomiting persists the stomach should be washed out also. To neutralize the toxins calomel in one-tenth-grain doses hourly for the first twenty-four hours is recommended. First among antipyretics is the cooled bath. When watery discharges continue after the irrigation, hypodermics of $\frac{1}{100}$ gr. of morphine and $\frac{1}{800}$ gr. of atropine can be given. Stimulants are indicated in the severe cases, and whiskey is the best that can be given. After the urgent symptoms have subsided the child can be nourished with the white of an egg stirred in cold water or the mixture recommended by Jacobi: Five ounces of barley water, the white of one egg, one or two teaspoonfuls of brandy or whiskey, some salt and sugar. A teaspoonful every five or ten minutes as indicated. No milk should be given for several days.—McCLANAHAN.

Infantile diarrhœa :

R̄ Bismuthi subgallici	3 i.
Sodii bicarbonatis	gr. v.
Cretæ preparatæ	3 ss.
Creosoti ..	gtt. v.
Syrupi cinnamomi.....	3 ss.
Aquæ destillatæ.....	q.s. ad 3 iv.

M. S. Teaspoonful after each movement. —GRIFFIN.

Or boiled water cooled to suitable temperature in small quantities every hour or as thirst demands, all food being excluded for from eight to twenty-four hours.—WATU.

R̄ Bismuthi subnitratis,	
Cretæ precipitatæ.....	āā gr. xxx
Pulveris opii.....	gr. i.

M. Divide into ten powders. S. One every two to three hours. —J. LEWIS SMITH.

Or—

℞ Acidi carbolici..... gr. ij.
 Bismuthi subnit..... 3 i.
 Syrupi acaciæ..... ʒ ss.
 Aq. menth. pip..... ad ʒ ij.

M. ft. mist. A half-teaspoonful every two or four hours.

℞ Salol..... 3 i.
 Bismuthi subnit..... 3 ij.
 Mist. cretæ..... q.s. ad ʒ iiij.

M. S. ʒ ij. every one or two hours until relieved.

—FUSSEL.

An emulsion for diarrhœa in children of medium age:

℞ Olei ricini..... 3 iiij.
 Tinct. opii..... 3 iss.
 Tinct. rhei aromatici..... 3 iiij.
 Mucilag. acaciæ..... 3 iv.
 Aquæ menthæ piperitæ..... ʒ iiij.

M. S. Dose one teaspoonful.

—BOSLEY.

In intestinal catarrh in infants, with green-colored stools:

℞ Hydrargyri chlorīdi mitis..... gr. ʒ
 Pulv. rhei radicis..... gr. ʒ
 Conchæ præp. (G. P.)..... gr. ivss.

M. ft. div. No. viii. S. One three or four times daily.

—WENDT.

In more chronic cases:

℞ Bismuthi subnitratis..... gr. iv.
 Sodii bicarbonatis..... gr. iv.
 Pulv. tragacanthæ..... gr. iiij.
 Spt. chloroformi..... ʒ ij.
 Aquæ cari..... 3 ij.

M. T.d.s.

—MONEY.

In severe forms:

℞ Iodoformi..... gr. iiij.
 Naphthalini..... gr. xv.
 Pulv. sacchari..... 3 iiss.
 Olei bergamii..... gtt. ij.

M. ft. chart. No. xx. S. One in milk every hour.

—COMBY.

Intestinal catarrh :

℞ Tannigen..... 2
 Sacchari lactis..... 3

M. Div. in chart. No. x. S. One-half powder every four hours. (Children above one year of age, a whole powder.)

—A. HOCK.

Diarrhœa incident upon teething :

℞ Acidi sulphurici dil gtt. xij.
 Morphinæ sulphatis gr. ½
 Spiritus vini gallici,
 Syrupi zingiberis..... āā ʒ ss.
 Aquæ q.s. ad ʒ iij.

M. S. Teaspoonful every three hours.

—MEIGS.

For greenish dejections :

℞ Sodii bromidi 4
 Syr. rhei aromatici,
 Tinct. opii camphoratæ āā 8
 Aquæ anisi ad 60

M. S. One tablespoonful every two or four hours.

℞ Lactic acid 2
 Simple syrup..... 98
 Lemon juice..... q.s.

M. S. One teaspoonful every three hours.

—HATFIELD.

℞ Benzonaphtholi,
 Bismuthi subnitratis,
 Resorcini āā gr. iss.

M. S. For a child one or two years of age one such powder every two hours until six have been taken.

—EWALD.

To allay excessive peristalsis :

℞ Paregoric,
 Glyceride of carbolic acid..... āā ʒ i.
 Castor oil ʒ v.
 Mucilage of acacia ʒ xv.
 Peppermint water..... enough to make ʒ i.

M. S. For a child a year old the dose of paregoric may be from five to ten drops, or of Dover's powder, half a grain.

Tincture of opium in quarter-minim doses may be given to a child three months old.

Caution.—The greatest care must be exercised in giving opium, for, though useful, it is dangerous.

In chronic attacks an extremely useful prescription is:

R Castor oil ℥ v.
 Mucilage of acacia ℥ xv.
 Peppermint water.....enough to make 3 i.
M. S. To be given every hour.

Another useful mixture is:

R Powdered rhubarb..... gr. i.
 Sodium bicarbonate..... gr. ss.
 Syrup of ginger..... ℥ viij.
 Peppermint water.....enough to make 3 i.
M.

Caution.—The administration of a purge in the collapsed states of severe infectious summer diarrhoea is an extremely serious matter.

Intestinal Irrigation.—First wash out the rectum; then irrigate high up, with a warm normal saline or boric-acid solution, the douche can being raised eighteen inches.—LANGFORD SYMES.

In the chronic form :

R Acidi nitrici..... ℥ v.
 Tinct. opii deodoratæ..... ℥ v.
 Tinct. nucis vomicæ..... ℥ v.
 Aquæ camphoræ.....q.s. ad 3 ss.
 Syrupi,
 Aquæ..... .āā q.s. ad 3 i.
M. S. One dose; repeat every three or four hours.

Or—

R Pulv. opii..... gr. vi.
 Ext. nucis vomicæ..... gr. iij.
 Cupri sulphatis..... gr. i.
M. et div. in pil. No. xii. S. One thrice daily.

—JOHN F. MEIGS.

When associated with lientery :

R Massæ hydrargyri..... gr. iv.
 Tinct. nucis vomicæ..... 3 ij.
 Morphinae sulphatis..... gr. ij.
 Syrupi catechu..... 3 ij.
 Aquæ camphoræ.....q.s. ad 3 viij.
M. S. Tablespoonful four times daily.

—JOSEPH NEFF.

With dyspepsia :

℞ Tinct. of cannabis indica.....	℥ x.
Subnitrate of bismuth.....	gr. x.
Spirits of chloroform.....	℥ xx.
Mucilage of acacia.....	3 ss.
Cinnamon water.....	3 i.

M. S. One dose.

—McCONNELL

In dysenteric diarrhœa :

℞ Bismuthi subnitratis,	
Acidi tannici,	
Pulv. ipecacuanhæ compos.....	āā gr. iij.

M. S. For one powder. To be taken thrice daily.

—J. M. DA COSTA.

℞ Acidi nitrici.....	℥ xx.
Tinct. opii.....	3 i.
Aquæ camphoræ.....	ad 3 ij.

M. S. Teaspoonful every three or four hours.

—HOPE.

For fermentative diarrhœa, especially in elderly people, benzonaphthol, gr. ii. to gr. v. for daily dose.—EWALD.

In morning diarrhœa, with large brownish fluid evacuations of offensive odor accompanied by escape of wind, change of climate, exclusive milk diet, or one of beef and hot water, or one of milk and meat, or one from which only starches and sugars are excluded. Preparations of opium check the passage for a time. Castor oil in doses of five or ten drops has given the best results.—FRANCIS DELAFIELD.

In Chronic Diarrhœa :

℞ Bismuthi subnitratis.....	gr. v.
Morphinæ sulphatis.....	gr. ʒ

M. S. This amount, two, three, or four times daily.

—ALONZO CLARKE.

℞ Fl. ext. of coto bark,	
Comp. tinct. of cardamom.....	āā 3 ij.
Mucilage of acacia,	
Syrup.....	āā 3 ss.
Cinnamon water.....	q.s. ad 3 viij.

M. S. Tablespoonful every three hours.

—J. B. CRANDALL.

When attended with anæmia :

- R** Ferri et potassii tartratis ℥i.-ij.
 Tinct. opii..... ʒ iss.-iiij.
 Aquæ cinnamomi..... ʒ iv.
M. S. Tablespoonful in water thrice daily.

—E. GOODEVE.

DIET.—Fatty and amylaceous articles should be excluded, such liquid and semiliquid substances being allowed as experience has proven easy of digestion.—MICHAUX.

In emaciation following lingering chronic diarrhœa :

- R** Acidi carbolici,
 Sodii chloridi,
 Sodii phosphatis,
 Sodii sulphatis āā 1 gm.
 Aquæ destill 100 "
M. S. Five grams injected twice daily.

Debilitated children often increase in weight under this medication.

Caution.—If continued too long, the injections produce a condition of sleeplessness, unrest, with crying, etc., and may cause true lymphatic engorgement.—THIERCELIN.

Fetid diarrhœa :

- R** Hydrargyri chloridi mitis..... 10 cgm.
 Zinci sulphocarbollatis 15 cgm.
 Bismuthi subnitratis 8 gm.
 Pepsini..... 2 gm.
M. Make twelve powders. S. Three per diem in a child of one year.

—TOMPKINS.

Diphtheria.

The chief characteristic of diphtheria is an acute exudative inflammation with the formation of a membrane, usually accompanied by swelling of the neighboring parts, induration of the lymph nodes, fever, etc. There may be entire absence of membrane.

The following clinical varieties are met with in practice:

1. So-called follicular tonsillitis.

2. Primary diphtheria of tonsils and pharynx.
3. Primary nasopharyngeal diphtheria.
4. Primary nasal diphtheria (membranous rhinitis).
5. Primary laryngeal diphtheria (membranous croup).
6. Diphtheria without membranes (simulating simple angina).
7. Secondary diphtheria, following measles, scarlet fever, pertussis, etc.—A. CAILLÉ.

Monti divides the clinical aspect of diphtheria into three forms: 1st. The fibrinous, in which the diphtheria products are largely confined to the mucous membrane, from which the poisonous toxin of the bacilli is slowly taken up by the underlying tissues. 2d. The mixed form or phlegmonous, or so-called diphtheritic croup, in which the fibrinous exudation involves the deeper fibrous tissue as well as the mucous membrane, and in which a virulent form of Loeffler's bacillus is found. 3d. The septic or gangrenous form, in which the pseudo-membrane sinks deep into the tissue, followed by necrosis. Here the Loeffler's bacillus, with other septic and saprophytic microbes, is found.

Anterior nasal diphtheria gives rise to very few symptoms: there is little or no fever, and a running at the nose, snuffles, and excoriated nostrils are noted.

The symptoms are aggravated if the disease extends to the nasopharynx.

The following forms of true diphtheria are distinguished in which the Klebs-Loeffler bacillus is the etiological factor:

1. Forms of diphtheria which simulate simple angina, and cannot be differentiated from it clinically, in which the Klebs-Loeffler bacillus is found; and which may be communicated to others, giving rise to the membranous forms.
2. Acute lacunar diphtheria of the tonsils, in which we have true Klebs-Loeffler diphtheria running its course with the clinical

manifestations of a pure lacunar or follicular tonsillitis, and not to be differentiated except by bacteriological test. The Klebs-Loeffler bacilli are found in the lacunar plugs.

3. Diphtheria which is manifested by punctate areas of membrane on the tonsil and soft palate, in which the Klebs-Loeffler bacilli are found.

4. Diphtheria in which we have areas of localized necrosis in the tonsil, and in which Klebs-Loeffler bacilli are found.

5. Fully formed membranous diphtheria, in which the Klebs-Loeffler bacilli are found.

We have also the so-called diphtheroid throats of German and French authors. In these cases we have a fully formed membrane, but it is not caused by the noxious activity of the Klebs-Loeffler bacilli, but by streptococci or peculiar biscuit-shaped cocci of Roux. In some cases staphylococci are the etiological bacterial agents. Exceedingly rare cases are those in which the gonococcus is the causal factor in the formation of a membrane in the fauces and throat.—H. KOPLIK.

DIAGNOSIS.—This is somewhat discussed under "Tonsillitis."

While a diagnosis by means of the microscope may be made at once by an expert, the result from a culture examination is more satisfactory.

Rapid Bacteriological Diagnosis.—Dr. Henry Koplik has devised an apparatus for this purpose. It consists of an ordinary water oven, which may be kept at 38° C. by a lamp.

The outfit does not cost over two dollars. The smears from the throat are to be made upon Loeffler's sugar-blood serum. It is to be treated for two and one-half or three hours, when the growth may be removed with a platinum needle and stained on a cover glass by Loeffler's blue. Loeffler bacilli will grow in a temperature of from 20° to 39.5° C., but the low point requires a long time. An excess of heat, on the other hand, is bad, as it favors

the streptococci, which may outgrow and cover the Klebs-Loeffler bacilli. The method is simple. An expert laboratory bacteriologist is not required.

Differential Stain for the Diphtheria Bacillus.—*A.* One gram of methylene blue (Grübler's) is dissolved in 20 c.c. of 96 per cent alcohol, which is then mixed with 950 c.c. of distilled water, and 50 c.c. of glacial acetic acid.

B. Two grams of vesuvin are dissolved in one litre of boiling distilled water and filtered.

The cover-glass preparations are stained in *A* for one to three seconds, rinsed in water, and stained in *B* for three to five seconds, washed in water, dried, and mounted. Stained in this manner the bacilli are brown, and contain two, or rarely three, but never more, blue corpuscles. The corpuscles are oval, not round, in shape, and their diameter appears greater than that of the bacilli in which they are situated.—NEISSER.

The clinic remains at the foundation of the diagnosis of diphtheritic angina; it alone indicates the time of intervention; bacteriology will indicate the manner.—LEMOINE.

What looks like a tonsillitis to-day may be a virulent diphtheria to-morrow; such cases should be isolated and treated as diphtheria.—A. CAILLÉ.

DIFFERENTIATION is made from follicular tonsillitis, which may resemble punctiform diphtheria by the creamy white or yellowish exudate which projects from the crypts of the follicles in the former. The exudate in the latter lies upon the surface of the tonsil and cannot be readily removed without causing bleeding, while in tonsillitis it appears somewhat below the surface and the areas are rounded, or, when confluent, have irregular margins. The membrane in diphtheria is more firmly embedded, requiring force for its removal, and it extends upon the soft palate, uvula, or pharynx. Pain in swallowing is less marked than in the early stage of a tonsillitis, while other signs, such as the absence of albumin, of swollen cervical nodes, and of

knee jerk, have their important bearing. It is pre-eminently the **Klebs-Loeffler bacillus** in cultures made from a swabbing that establishes the diagnosis. A negative result from the examination of a single culture is not sufficient ground for excluding diphtheria; two or more cultures should be taken if the case is a suspicious one. Antiseptics, and especially mercurials, if employed before the culture is made, may prove a source of error. In laryngeal cases a negative culture made from the pharynx cannot be relied upon absolutely. Irregular patches of adherent grayish pseudo-membrane implicating other portions of the throat besides the tonsils may be said, in a general way, to be indicative of diphtheria. This is especially true if the membrane involve the nasal cavity.

The mere presence of the Loeffler bacillus in the throat of a person presenting the clinical appearances of a non-diphtheritic affection is not to be looked upon as pathognomonic or absolutely indicative of diphtheria. The pseudo-diphtheria bacillus cannot be positively distinguished from the virulent within twenty-four hours.—SCHAUZ.

In the pseudo-diphtheria of scarlatina the membrane is thin, of a grayish color, and, although it may cover the lateral aspects of the uvula and pillars of the fauces, it does not contain the diphtheria bacilli. True diphtheria, however, may often complicate scarlatina.

Diphtheria of the mouth may be mistaken for stomatitis, and patches of leptothrix are frequently called diphtheria, particularly when associated with tonsillar inflammation, painful and swollen lymph nodes, and fever.

Leptothrix patches will be found protruding from the crypts or margins of the tonsils, and are very difficult to scrape away.—A. CAILLÉ.

The effect of vesicants and escharotics upon the throat, causing an inflammation with pellicle, is not to be distinguished, by the eye alone, from diphtheria. In practice, therefore, it is

wise to consider all doubtful instances as at least possibly diphtheritic.—ALLBUTT.

COMPLICATIONS. —Heart failure, broncho-pneumonia (inflammation may skip the larynx), nephritis, diarrhœa, otitis media purulenta, abscess or phlegmon of the neck.

SEQUELE. -1. Paralysis of groups of muscles, most frequently the soft palate, occasionally those of the pharynx, larynx, eye, or extremities. These are usually not serious, and disappear after weeks or months. Paralysis of the muscles of respiration is of course very dangerous. 2. Sudden death from heart paralysis. 3. Nephritis. 4. Anæmia.

PROGNOSIS.—The mortality has been reduced from 30 or 40 to 15 and even to 9 per cent. since the introduction of antitoxin.

Hyperleucocytosis is an unfavorable sign.

PROPHYLAXIS.—Diphtheria is not so readily transmissible as scarlatina. It can be readily prevented. Chronic nasal catarrh, adenoid vegetations, enlarged tonsils, and carious teeth favor infection. In the absence of such conditions the instillation of a weak salt or alkaline solution into the nose morning and evening will prevent diphtheria in those exposed.—CAILLÉ.

Instead of a saline solution one of the following may be employed: Dobell's solution (see p. 200); boric-acid solution, 4 per cent; listerine, 5-10; permanganate of potassium, 1-4,000; mercuric bichloride, 1-10,000.

The local use of guaiacol is a prophylactic. —S. SOLIS-COHEN.

IMMUNITY. Specific and direct immunity is secured by means of antitoxin. The period of immunity varies from three to six weeks, which is sufficient for all practical purposes. The immunizing dose for an exposed child is two hundred units.—A. CAILLÉ.

TREATMENT. -I. *Antitoxin*. This should be employed as soon as the clinical diagnosis is made; do not wait for a bacteriological verification. The dose should be gauged in units, not by volume. The best preparation is the one containing the highest

number of units in the smallest volume—obtained from a reliable source.

When antitoxin is employed at an early stage and there are no complications, the good results are very striking. The amount required varies with the severity of the attack and the patient's weight.

Dosage.—The average curative dose is 1,500 units; in croup, in very severe cases, and those in which treatment was not begun early, 2,000 to 3,000 units (Behring's standard). When marked improvement does not speedily follow after an interval of from twelve to twenty-four hours a second dose should be given; sometimes a third may be required. The ordinary hypodermic syringe will answer for the stronger preparation, but for the larger quantities a syringe especially prepared for the purpose is necessary. The injection is to be made where an abundance of subcutaneous cellular tissue favors absorption. Strict cleanliness of skin surface and instrument is essential. Adjuvant local treatment is of as great importance as heretofore, and general measures are not to be neglected during the delay of bacteriologic test.

For infants of one or two years, 5 c.c.; for children over two years, 10 c.c.; for children over twelve years, 10 to 20 c.c. Inject into the flank.—GASSICOURT.

One thousand units for very young children; 1,500 units for older children; 2,000 units in croup cases.—CAILLÉ.

This is for the first injection, and is to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval if necessary.

However late the first observation is made, an injection should be given, unless the progress of the case is favorable and satisfactory.

The number of units considered necessary in a given instance should be given at a single injection or in rapidly succeeding injections. The earlier it is used, the better will be the re-

sults. The syringe should by preference hold the full dose desired.

The part chosen for injecting (back, loins, sides of chest) should be thoroughly cleansed with alcohol and the puncture covered with iodoform collodion.—ROSENTHAL.

When the larynx is affected, the rapid clearing of its exudate under antitoxin frequently prevents the necessity of performing tracheotomy.—J. W. WASHBOURN.

The antitoxin rash assumes varied forms, none of which is characteristic. It may readily be mistaken for measles or scarlet fever, especially when associated with a rise of temperature.

Antitoxin is said to have produced nephritis, and Dr. A. E. Bieser attributes acute suppression of urine in otherwise mild cases of diphtheria to its use.

II. *Local*.—*To cleanse the nose and throat*, irrigate with a lukewarm one-half per-cent salt solution, not employing too much pressure.—BAGINSKY.

As an application on cotton, bichloride of mercury, one-half per-cent solution. Use every hour.—LOUIS FISCHER.

To destroy the bacilli before their toxic products are absorbed:

℞ Liq. ferri sesquichloridi.....	4 gm.
Toluol.....	36 "
Alcohol.....	60 "
Menthol (to relieve the pain).....	20 "

M. S. Apply locally on pledgets of cotton for ten seconds at a time, every three hours.

—LOEFFLER.

℞ Chloral hydrat.....	3 i.-ij.
Aque destil.....	0 ij.

M. S. Use with a soft catheter to wash out post-nasal spaces and pharynx, the child's head being held low.

—DE GUY.

Irrigation with an abundance of boric-acid solution, 40 to

1,000, or with 50 gm. of Labarraque solution in a litre of water.
—GASSICOURT.

Keep the throat clean with a 1-5,000 bichloride solution, or, if the attendant is not trained, a 1-4,000 permanganate solution. When a young child is difficult to manage, it is best to inject the solution into the nostrils.—W. A. WALKER.

R Ammonii sulphoichthyolatis.....	10
Hydrargyri bichloridi corrosivi.....	0.1
Aquæ destillatæ.....	100
—LOUIS FISCHER.	

R Menthol.....	10
Alcohol.....	100
Paint on throat three times daily.	
—KASTOVSKY.	

R Potassium chlorate.....	$\frac{3}{4}$ ss.
Lime water.....	$\frac{3}{4}$ vi.
Decoction of marsh mallow.....	$\frac{3}{4}$ xxv.

Use diluted with three or four times as much hot water for gargling, irrigating, and swabbing.—NEUMAYER.

Or—
Dobell's solution (see page 204).

After ten years' trial of the following mixture, one hundred cases with one hundred recoveries are reported :

R Acidi acetici diluti.....	3 ij.
Potassii chloratis.....	3 ss.
Acidi carbolicæ.....	gtt. v.
Tinct. ferri chloridi.....	gtt. v.
Pulv. aluminis.....	gr. v.
Acidi salicylici.....	gr. i.
Glycerini.....	$\frac{3}{4}$ ss.
Aquæ rosæ.....	$\frac{3}{4}$ ss.
Aquæ.....	.q.s. ad $\frac{3}{4}$ iv.

M.

In severe cases all the mucous membranes are to be thoroughly sprayed through the nose and mouth at intervals of fifteen or twenty minutes, for about fifteen seconds at a time, the child breathing as naturally as possible during the application.

Tincture of chloride of iron in large and frequent doses produces its local action while being swallowed.—BENJAMIN.

℞ Tinct. iodi comp.....	℥ cx.
Acidi carbolic liquefacti	℥ xl.
Glycerini.....	℥ iiss.
Aquæ.....	q.s. ad ℥ xvi.

Mix the tincture with the carbolic acid, liquefied by a gentle heat; then add the other ingredients, and expose the mixture to sunlight until it has become colorless.—BOULTON.

℞ Tinct. ferri chloridi.....	3 i.-iiij.
Glycerini.....	q.s. ad ℥ i.

M. S. Paint tonsils every four hours.

—POWELL.

If tongue is coated and bowels are constipated, a liberal dose of calomel should be given. For the glandular enlargement, an ice collar should be worn.

℞ Hydrogen peroxide	℥ i.
Euthymol	℥ i.
Lime water	℥ ij.

M. S. Gargle every two hours.

Touch the membrane for ten or fifteen seconds with Loeffler's solution (see page 250).—GEORGE DUFFIELD.

Instead of mercury by the mouth :

℞ Unguenti hydrargyri,	
Lanolini,	
Unguenti simplicis	℥ 3 ij.

M. S. Rub in every two hours.

—CAILLÉ.

Alternate peroxide-of-hydrogen solution, applied locally, with:

℞ Tinct. ferri chloridi	℥ i.
Alcohol vel listerin.....	℥ i.
Hydrargyri chloridi corrosivi	gr. ij.
Menthol.....	3 i.

—SEIBERT.

R Bromine.....	℥ iv.
Alcohol.....	3 i.
Simple syrup	3 i.
Water	3 ij.
M. S. Apply every four hours.	

Two hours after the application I give internally every four hours one teaspoonful of the following to a child five or six years old:

R Bromide.....	℥ iiij.
Alcohol.....	3 ij.
Compound syrup of squill.....	3 ij.
Water	3 iv.
Syrup of wild cherry	sufficient to make 3 ij.
M.	

—ROBERTSON.

The local treatment of diphtheria must be mild. Swabbing the throat is harmful. Solutions used as gargles do not reach the nasopharynx; the spray is to be used only in docile children. The best way to cleanse the nasopharynx is to pour the liquid into the nose from a spoon or syringe.—CAILLÉ.

To dissolve the exudation:

R Acidi lactici.....	3 iiiss.
Aquæ destill.....	3 x.

M. S. Apply by means of a spray or mop.

—MORELL MACKENZIE.

Or—

R Papaini.....	3 iiiss.
Hydronaphtholi	gr. ij.
Acidi muriatici.....	gtt. xv.
Aquæ destill.....	3 iiij.
Glycerini.....	3 ij.

M. S. Apply to affected parts every half-hour by an atomizer.

—CALDWELL.

III. *Fumigation.*—The croup tent is constructed over the patient's bed and under it ten to twenty grains of calomel are vaporized upon a tin plate over an alcohol lamp every two or three hours, for the first day.

Sublimation of twenty to forty grains of calomel, according

to the age of the patient, every one, two, or three hours.—
WAXHAM.

Caution.—Do not permit fumes to become too concentrated.
It may be used in conjunction with antitoxin.

IV. *Medicinal.*—

℞ Pilocarpini hydrochlor. gr. $\frac{1}{4}$ – $\frac{1}{2}$
Pepsini. gr. x.
Aquæ destill. 3 xviiss.
Acidi hydrochlorici. gtt. ii.–iiij.
M. S. Teaspoonful to one-half ounce three or four times daily.

—LAX.

℞ Precipitated sulphur 3 iss.
Chocolate powder. 3 i.
Cinnamon water. 3 i.
Glycerin. to make 3 iiij.
M. S. One-half to one teaspoonful every hour or oftener.

—KNAGGS.

℞ Quinoidini,
Quininæ sulphatis āā gr. xxv.
Acidi sulphurici aromatici 3 ij.
Spiritus frumenti. 3 viij.
M. S. Fifteen drops to one-half ounce four or five times daily.

—E. N. CHAPMAN.

For children of two or three years :

℞ Hydrargyri chloridi corrosivi... gr. $\frac{1}{4}$
Every two or three hours for two or three days together, alternating with
iron mixture.

—J. H. FRUITNIGHT.

Caution.—This may appear a large dose to those not familiar with its use in this way, and its effects must be watched, but from my own experience with frequent large doses of mercury, in scarlatina as well as in diphtheria, I have no hesitancy in recommending its use in even larger doses. I believe, however, it should be given well diluted.—A.

℞ Hydrargyri chloridi mitis gr. ss.
Every hour or two, and local applications of turpentine to the throat.

—J. MCFADDEN GASTON.

Mercurial treatment is my favorite, following Reiter, of Pittsburg. I give it (calomel) freely, and use chlorine in some form as chlorides, etc.), for local application. I have always had excellent results with this method, fully as good as the reported results from antitoxin.—S. O. L. POTTER.

℞ Hydrarg. chloridi mitis..... gr. i.
Sodii bicarbonatis gr. xxiv.
Pulv. aromatici gr. vi.
M. ft. chart. No. xii. S. One powder every two hours.

—STARR.

℞ Pilocarpinæ hydrochloratis gr. ½
Ammonii carbonatis gr. xv.
Potassii chloratis..... 3 ss.
Aquæ destillatæ..... 3 ij.
Spiritus vini gallici,
Syrupi senegæ.....āā 3 i.
M. S. Of this mixture, a teaspoonful, a dessertspoonful, or a tablespoonful may be given every hour, according to the age of the patient.

—BARSKY.

℞ Quininæ sulphatis gtt. xij.
Potassii chloratis..... gr. xlvij.
Tinct. ferri chloridi 3 i.
Syrupi zingiberis..... 3 i.
Aquæ.....q. s. ad 3 iiij.
M. S. Teaspoonful in water every two hours for a child of six to ten years

—GOODHART AND STARR.

No. 1.

℞ Tinct. aconiti..... gtt. xx.
Tinct. belladonnæ 3 ss.
Glycerini..... 3 iv.
Aquæ gaultheriæ.....q s. ad 3 iv.

No. 2.

℞ Potassii chloratis,
Sodii bromidiāā 3 ss.
Glycerini 3 ss.
Tinct. ferri chloridi 3 ss.
Aquæq. s. ad 3 iv.
M. S. Half a teaspoonful for an adult.

These are to be given alternately every half-hour, thus bringing the doses fifteen minutes apart.—DOUGLASS.

In pharyngeal diphtheria :

℞ Atropine sulphate 0.045
Cocaine hydrochlorate..... 0.75
Bitter-almond water..... 300
M. S. One drop every hour for each year of the child's age.

For adults, according to the patient's constitution and the severity of the disease, from ten to fifteen drops every hour. The frequency of administration is important, and at first it should be kept up even at night; consequently great care is necessary on the part of the nurse.—ELSAESSER.

The best agent to produce emesis in membranous laryngitis is ipecacuanha.—OSLER.

I do not think it very necessary to administer emetics, except at the beginning, and then chiefly as a means of differential diagnosis between true and false croup, the latter being cured, while true croup is only temporarily relieved.—BERG.

The local antiseptic value of a teaspoonful of medicine, as it glides over the tongue and down the œsophagus, is practically nil. The spray and croup kettle have very little value, and emetics in any shape are productive of evil. They sap the strength of the patient and never dislodge a membrane, except from the pharynx or surface of the epiglottis.—CAILLÉ.

Complications.—For hyperpyrexia use cold sponging and apply ice bag to the head. Stimulation—whiskey, wine, champagne; strychnine, caffeine, sodium-benzoate.

Whiskey must be given until the physiological effect is obtained—flushing of the cheeks, alcoholic breath, and desired pulse effect.—A. E. BIESER.

Guard against heart failure by giving whiskey and camphor injections.

In nephritis, when albumin appears, give brisk cathartics—calomel and jalap—and packs to produce sweating. Pilocarpine injections may be cautiously employed.

To prevent broncho-pneumonia, antistreptococcus serum. The temperature of the room should be kept at 70° F.—BERG.

In painful glandular swellings:

R Extr. belladonnæ.....	gr. xxx.
Potassii iodidi.....	gr. xv.
Axungiæ	℥ i.
M. S. Spread and apply.	

For diarrhœa, give bismuth and tannigen and regulate diet.

To overcome depression :

R Caffeinæ,

Sodii benzoatisãã gr. x.

Aquæ destil. ʒ ss.

M. S. Per rectum once or twice daily.

—DE GUY.

Sequelæ.—*In paralysis*, hygiene, fresh air, exercise, strychnine hypodermatically, electricity (faradic current).

R Tinct. nucis vomicæ..... 0.015 gm.

Strychninæ sulphatis..... 0.001 “

Aquæ..... 1. “

M. S. Two to eight drops with each meal, for children over four years of age.

—L. SIMON.

As cardiac tonic :

R Caffeinæ..... 3 i.

Tinct. kolæ 3 vi.

Ext. cinchonæ fld 3 iij.

Vini..... 0 ij.

M. S. Wineglassful several times daily.

—DE GUY.

V. Dietetic and Hygenic.—Fluid or semi-solid diet, milk in any form—peptonized, koumyss, matzoon, ice cream—peptonized beef juice, eggs, soups, farina, etc.

Forced feeding, *via* mouth or nose, may be necessary during period of intubation.

Rectal alimentation in obstinate vomiting.

For purifying the air, keep a quart of water over a gentle heat in the sick-room, and every three hours pour into it a dessertspoonful of:

R Acidi carbolicæ..... ʒ i.

Acidi benzoici..... 3 iv.

Acidi salicylici..... 3 ij.

Spiritus vini rectificati ʒ ij.

Or—

R Acid carbolicæ,

Olei eucalypti.....ãã ʒ i.

Spiritus terebinthinæ..... ʒ viij.

M. S. Two tablespoonfuls in a quart of water to be kept simmering on a stove in the sick-room.

—J. LEWIS SMITH.

Oxygen is a valuable agent, and is preferably given through the nose.

VI. *Instrumentation.*—*For the relief of dyspnœa:* (a) *Scarification* of the epiglottis often gives relief when the dyspnœa is due to œdema.

(b) *O'Dwyer's intubation* is indicated when the breathing is obstructed and dyspnœa and other signs of laryngeal stenosis are increasing (retraction of the episternal, epigastric, and jugular regions, cyanosis). Intubation may be resorted to at an earlier stage than tracheotomy, it being a somewhat less dangerous procedure. For description of the O'Dwyer set of instruments, see larger text-books and instrument catalogues.

A tube of appropriate size, fastened to the introducer, and with a stout silk passed through the eye, is passed along the index finger of the left hand, which has been introduced behind the epiglottis. By raising the handle bar the tube glides under the direction of the finger tip downward and forward into the larynx.

If the patient remains cyanotic, the tube is not in the larynx, or it has become plugged, or it has forced a piece of detached membrane down in front of it. Remove and reintroduce. If the tube is in place, a moist, whistling sound is produced, cyanosis disappears, and the child breathes freely.

The tube may be removed in from two to six days. Anti-toxin hastens the separation of the membrane. If the tube is kept too long *in situ*, pressure necrosis may occur.

(c) *Tracheotomy:* For the technique of tracheotomy, see works on surgery. It is indicated in marked subglottic swelling, in involvement of the trachea, or when a large loose membrane becomes lodged in the trachea; and by some it is preferred to intubation in adults.

T. H. Halstead, basing his opinions on an experience of fifty-seven instances of intubation in private practice, concludes:

1. Laryngeal diphtheria, in any epidemic, is never mild, but

has always had a mortality of from ninety to ninety-five per cent, reduced by operation, intubation or tracheotomy, to from **seventy-two to seventy-six** per cent.

2. The report of cases shows a mortality of intubations **without** serum of seventy-six per cent; in conjunction with **serum**, of twenty-five per cent, and, eliminating cases of death **within** twenty-four hours of injection, a mortality of ten per cent. The reduction of mortality from seventy-six to ten per cent is to be credited to antitoxin.

3. Antitoxin should always be administered as early as possible, and in laryngeal cases without waiting for the bacteriologist's report.

4. No child should be allowed to die of laryngeal stenosis **without** an operation, preferably intubation, as most desperate cases often end in recovery.

Duodenitis.

Catarrhal inflammation of the duodenum gives the same symptoms as a mild gastro-intestinal catarrh, plus the presence of jaundice due to inflammation of the biliary passages. In the absence of catarrhal icterus, mucus in the dejections after a catarrh of the stomach will point to the duodenum as the seat of trouble.

DIFFERENTIATION.—From stomach catarrh, hepatic diseases, gall stones, etc., by the pain and tenderness being more likely to be marked in the umbilical region or over the duodenum. From catarrh of the large intestine by the presence of indican in the urine.

TREATMENT.—Regulate the diet, excluding sweets, starches, and fats. Sodium phosphate, \mathfrak{z} i., four times daily.—**CARPENTER.**

In chronic duodenal indigestion in children drugs are useful only in relieving constipation and checking diarrhœa.

Tincture nux vomica in small doses may be administered after each meal.

Regulate diet for several months after an attack to prevent relapse. —SHOBER.

Dysentery, Acute.

Symptoms of intestinal catarrh of intense degree, dejections containing mucus and blood, and the patient presenting symptoms of fever and prostration constitute the signs of inflammation of the colon.

According to the degree of inflammation present we may have catarrhal, ulcerative, or membranous colitis.

DIAGNOSIS.—Epidemic prevalence, especially in crowded institutions, camps, and among pilgrims, particularly in the summer season, in tropical countries, and in regions where the water supply is not above suspicion, aids in the diagnosis.

The first symptoms of catarrhal dysentery are those of simple dyspeptic or catarrhal diarrhoea. After a few days there may be a chill with pain in the course of the colon, passages attended with tenesmus, and a sensation as though the rectum contained a hot mass which must be expelled. The tongue has a rawish, red appearance and the temperature rises as high as 103° F. Restlessness marks the progress of the case; the pulse is rapid and feeble, the redness of the tongue is replaced by a brown glazed coating, the whole mouth is parched and dry, ulcers form, and sordes are deposited upon the teeth. In severe instances the passages often consist of almost pure blood; the urine may even become bloody and collapse may occur. It is in the last-mentioned condition that ulcerative colitis is spoken of.

DIFFERENTIATION is to be made especially from typhoid fever. The "bloody flux" distinguishes dysentery from other diarrhoeal affections. Bleeding, as we have seen, may occur in other conditions, and malignant disease of the rectum must always be borne in mind and excluded in the presence of any prolonged

discharge of bloody mucus. In diphtheritic or membranous dysentery there are greater fever, pain, and tenesmus, and delirium is apt to occur. The occurrence of successive instances of so severe a type points to this variety, which is believed to depend upon a bacillus not identical with the Klebs-Loeffler. Secondary diphtheritic enteritis is of difficult diagnosis, but may exist when a severe colitis follows pyæmic infections, puerperal septicæmia, scarlatina, variola, or other severe infectious disease.

Amœbic dysentery is recognized by microscopic discovery of the amœba coli in the dejections.

Gangrenous enteritis is always to be classed as a secondary infection. Here extremely offensive discolored sloughs are evacuated along with a free bloody discharge.

TREATMENT.—Too much reliance must not be placed in drug medication. Hygiene, rest in bed, and diet are important.

Ipecac in large doses.

Internal—for adults :

℞ Creosoti gtt. xx.
 Acidi acetici gtt. xl.
 Morphine sulphatis gr. ij.
 Aquæ ʒ ij.

M. S. Teaspoonful every two hours.

—J. R. CUSHING.

℞ Extracti ergotæ fluidi ʒ iiiss.
 Tinct. opii deodoratæ ʒ ss.

M. S. Teaspoonful thrice daily.

Or—

℞ Ergotinæ (or aq. ex.) ʒ i.
 Extr. nucis vomicæ gr. v.
 Extr. opii gr. v.

Ft. pil. No. xx. S. One every four or six hours.

—BARTHOLOW.

℞ Ipecac. gr. v.
 Calomel. gr. iss.
 Ext. of opium. gr. i.

M. To be made into three pills ; give one every hour.

—BOUDIN.

℞ Pulv. ipecacuanhæ comp ʒi.
 Pulv. ipecacuanhæ ʒiv.
 M. ft. chart. No. iv. S. One after each action till relieved.

—T. J. HAPPEL.

℞ Magnesii sulphatis gr. xl.
 Tinct. opii deodoratæ gtt. v.
 Syrupi limonis ʒss.
 Aquæ q.s. ad ʒij.

M. S. For one dose. Give every hour until stools change in character to feculence; then every two hours.

—ALFRED STENGEL.

If much intestinal pain:

℞ Acidi muriatici dil. ʒij.
 Morphinae sulphatis gr. ij.
 Aquæ destillatæ ʒiiij.

M. S. Teaspoonful three or four times daily.

—CARL SCHWALBE.

To relieve the irritability of the inflamed bowel and carry away the concretion of fæces:

℞ Olei ricini ʒi.
 Tincturæ ipecacuanhæ comp. ʒij.
 Sacchar. albæ ʒij.
 Pulveris acaciæ ʒiiij.
 Aquæ menth. q.s. ad ʒiv.

M. S. A teaspoonful every two to three hours when the case is first seen.

—E. H. BAYLEY.

℞ Potass. et sod. tart. (sat. sol.) ʒij.
 Tinct. opii. camph. ʒss.
 Syr. rhei aromat q.s. ad ʒiv.

M. S. Two teaspoonfuls every hour until two or three evacuations are produced.

In later stages, when there is much blood and tenesmus:

℞ Ext. opii gr. i.
 Ext. hyoseyami gr. ij.
 Ext. belladonnæ gr. ʒ

M. S. At dose. To be repeated if necessary.

—R. B. HOPKINS.

℞ Naphthalin gr. xv.
 Calomel gr. viij.
 Essence of bergamot gtt. iiij.
 Sugar q.s.

M. Divide into ten wafers. S. One to be taken every hour.

—KARTULIS.

Milk diet, and one of the following pills every two hours:

℞ Calomel 60 cgm.
Powder ipecac..... 40 "
Extract opium 5 "
—MAGET.

In Grave Cases.—1. Large intravenous injections of a 7 to ,000 saline solution. 2. They should be administered at a comparatively early stage of the disease, and should be repeated. Each time a quantity of liquid varying from 1,000 to 1,800 c.c. is to be employed, 50 to 100 c. c. being injected per minute.

—BOSE AND BEDEL.

For children :

℞ Pulv. ipecacuanhæ comp..... gr. vi.
Bismuthi subcarbonatis 3 i.
Pulv. aromatici..... gr. vi.
M. et ft. chart. No. xii. S. One powder every three hours.
—STARR.

Or—

℞ Liq. ferri nitratis,
Acidi nitrici dil..... ãã 3 ss.
Syrupi simplicis..... 3 i.
Aquæ cinnamomi..... q.s. ad 3 iij.
M. S. Teaspoonful every three hours.
—ELLIS.

Or—

℞ Liq. opii comp. (Squibb) gtt. i.-iij.
Aquæ destill 3 i.
At dose.
—FRUITNIGHT.

For the tenesmus :

℞ Atropinæ sulphatis..... gr. i.
Aquæ destillatæ 3 i.
M. S. Two or three drops every half-hour in water until pupil enlarges and throat feels dry.
—SCHWALBE.

Local.—*In acute dysentery* involving the colon high up, have found large enemata, containing two or three drachms of subnitrate of bismuth, much more efficient than the exhibition of bismuth by the mouth.—WOOD.

℞ Argenti nitratis 3 i.
Aquæ O iij.
M. S. For one injection.
—H. C. WOOD, JR.

℞ Creosoti (beechwood).....	gr. xv.
Tinct. opii.....	gtt. x.
Lactis (bullientis).....	℥ v.
Aquæ (bullientis).....	℥ viiss.

M. S. Inject, while hot, into the colon after irrigating the rectum with a solution of boric acid and salicylic acid (Thiersch's).

—TESTEVIN.

Hot enemata of tannin and boric acid. When the stools have become diarrhoeal in character bismuth in large doses.

Large enemata of warm or ice-cold water under low hydrostatic pressure.—BRAYTON BALL.

℞ Pulv. aluminis.....	℥ ss.
Aquæ	℥ ss.

M. S. Inject per rectum twice daily.

℞ Acidi carbolici pur	gr. xij.
Bismuthi subgallatis	℥ ij.
Tinct. opii camphoratæ.....	℥ ss.
Mist. cretæ.....	q.s. ad ℥ ij.

M. S. Shake; teaspoonful in water every two hours till there is a change in the color of the stools.

—LYON.

Suppositories for dysentery in children :

℞ Aluminii et potassii sulphat. (neutral)	0.20 cgm.
Plumbi acetat.	0.05 cgm.
Olei theobromatis.	20 gm.
Ceræ	℥ xx.

M. ft. supposit. No. x. S. Insert one every three or four hours. Especially beneficial after intestinal irrigation with a one-per-cent solution of tannin to which a few drops of Sydenham's laudanum are added.

—GUIDA.

Or—

℞ Muriate of cocaine.....	0.05
Ergotin	50
Extract of opium.....	10
Aristol.....	25
Cacao butter.....	q. s.

M. For ten suppositories. S. Introduce one every two or three hours.

—ADAMS.

To Relieve Tenesmus.—Inject, per rectum, half an ounce of iodoform oil (℥ ss. to ℥ i.) every four or five hours.

Dysentery, Chronic.

When any one of the first-mentioned forms persists we recognize chronic dysentery, which is distinguished from the acute form, not only by its persistence but also by the presence of bodies in the discharges which resemble boiled sago. The skin is exceedingly dry. Anæmia of pronounced type is present, and albumin and casts are to be found in the urine. It is as a result of chronic ulcerative colitis persisting after dysentery contracted in war camp or prison that most money is paid out in pension claims to survivors of the late rebellion.

In some chronic forms, instead of ulceration the symptoms may point to simple thickening of the mucosa and walls of the large intestine.

TREATMENT.—Dietetics are of the greatest importance.

Internally :

℞ Liquor hydrargyri perchloridi (P. B.)..... 3 ss.

S. At dose, twice or thrice daily.

Avoid astringents.—TULL WALSH.

Half a tumblerful of a two-per-cent solution of lactic acid twice daily gave good results after other means had failed.—LOJKIN.

℞ Cupri sulphatis,

Morphinæ sulphatis.....ãã gr. i.

Quininæ sulphatis..... gr. xxiv.

M. ft. pil. No. xii. S. One pill three times a day.

℞ Ferri subsulphatis..... gr. xl.

Pulv. opii..... gr. xv.

M. ft. pil. No. xx. S. One t.i.d.

℞ Pulveris ipecacuanhæ 3 iij.

M. For twelve powders. S. One to be taken morning and evening on an empty stomach.

—W. E. WHITEHEAD.

℞ Tinct. benzoini comp..... 3 ss.

Tinct. catechu comp..... 3 i.

Tinct. opii..... ℥ x.

Ext. hæmatoxyli gr. x.

Aquam ad ʒ i.

M. S. For a draught: to be given thrice daily.

—R. DONELSON.

To remove the acrid and offensive character of the stools, carbo ligni.—NATHANIEL CHAPMAN.

Local.—

- R Creasote (purified)..... ℥ xv.
- Laudanum..... gtt. x.
- Milk or bouillon..... 3 v.
- Boiled water..... 3 vi.

M. S. Inject after a preliminary boric or salicylic lavage.
—TESTEIX.

For persistent ulcers:

- R Argenti nitratis..... gr. v.-x.
 - Aquæ destill..... O i.
- M. S. Use as an irrigation.

Ulcers in the Rectum.—After irrigating with water, apply strong silver solution or pure nitric acid, and irrigate afterward with salt or soda solution.—W. W. JOHNSTON.

Dysentery, Tropical.

In recent times this form has come to be spoken of as amœbic dysentery, since the *amœba coli* is constantly present. The stools are more copious but less numerous, and tenesmus is not so marked.

DIAGNOSIS.—A gradual or abrupt onset of a mild or severe diarrhœa, with or without fever, with frequent and copious yellowish-gray fluid stools, containing mucus and perhaps blood, and the ever-present amœbæ coli, are the chief characteristics of tropical dysentery.

DIFFERENTIATION.—Finding an abundance of amœbæ in the dejections by means of the microscope renders the diagnosis of this form comparatively easy.

TREATMENT.—Warm injections of quinine in strength of 1 to 5,000, 1 to 2,500, and 1 to 1,000.—OSLER.

Dyspepsia, Acute.

Acute gastric catarrh or acute dyspepsia may be of mild or severe type.

Nausea, regurgitation of tasteless or acrid fluid, bad taste in the mouth, vomiting, epigastric pain, decided thirst, and usually constipation are the predominating symptoms.

DIAGNOSIS.—If the stomach symptoms follow immediately upon taking food, especially of indigestible or irritating nature, the true cause is naturally suggested. If, however, this source of irritation is not present, one may suspect in children especially the beginning of one of the acute exanthemata.

DIFFERENTIATION.—Typhoid fever may begin with much the same train of symptoms, but the characteristic range of temperature, the diazo reaction, or other test will soon confirm or disprove the suspicion.

PROGNOSIS.—The duration is about two weeks unless complicated with duodenitis or gastro-enteritis. Repeated attacks may result in chronic catarrhal gastritis or chronic dyspepsia.

Dyspepsia, Chronic.

Chronic catarrhal gastritis has a more gradual onset than the acute form, the symptoms being at first transient and later on more persistent. The appetite is perverted, with craving for particular dishes, and excesses at table are indulged in despite subsequent discomfort. There is often nausea before and vomiting after eating. Eructations of gas and regurgitations of bitter or acrid fluid into the mouth are frequent. Food produces a sense of weight or tension in the epigastrium and at times acute pain. The evacuations may contain undigested particles. The tongue is coated, the taste unnatural, the breath offensive.

DIFFERENTIATION from nervous dyspepsia is made by the

absence of other neuroses and by a more or less constant relationship between the taking of food and the production of symptoms. The quantity and quality of food do not here seem to play an important rôle. In chronic gastric catarrh the symptoms are constant, and if the gastric secretions are examined a diminished acidity and an excess of mucus are noted.

Ulcer of the stomach is eliminated by the absence of a circumscribed painful spot, hæmatemesis or melena, and the lesser intensity of the pain.

Dilatation of the stomach is excluded by washing out the organ with the stomach-tube several hours after food has been taken and examining the contents for undigested particles.

In cancer an excess of lactic acid is usually present and a tumor may perhaps be palpated in explanation of a coexisting cachexia.

In every case of persistent dyspepsia, careful examination of urine should be made.—LOOMIS.

If two hours after a test breakfast (tea, coffee, milk—not over a pint of fluids—sugar, one or two rolls, or bread without butter), there is a sense of heat in the stomach, with burning and acidity, it indicates hyperacid dyspepsia.

Gas, weight, fulness show hypoacid dyspepsia. Epigastric pain coming on at the end of a quarter of an hour and gradually increasing indicates a probable gastro-duodenal irritation.—DUJARDIN BEAUMETZ.

TREATMENT.—Before attempting any therapeutic measures we should decide whether there is present an exaggerated, an inefficient, or a perverted function, and the source of the digestive disturbance should be sought out.

For acid dyspepsia (fermentative) :

R̄ Sodii chloridi ʒ ss.
 Sodii bicarbonatis..... ʒ i.
 Sodii sulphatis ʒ iiss.

M. et ft. chart. S. Small teaspoonful in one pint of hot water an hour before meals. Regulate amount of salts according to bowels—one or two free movements daily being desired.

—H. B. WHITNEY.

In chronic dyspepsia, due to atony and dilatation of the stomach in children five to ten years old, the following treatment is to be continued for ten days, then omitted for the same period and repeated. It is contraindicated in severe pain of the stomach with accompanying great nervous irritability:

℞ Pulv. nucis vomicæ 0.01
 Sodii bicarbonatis,
 Magnesiae calcinatæ ãã 0.2
 Pepsini 0.1
 M. S. For one powder to be taken before meals, morning and evening.
 —COMBY.

Hyperchlorhydria:

℞ Betanaphthol..... gr. v.
 Ess. zingib..... 3 i.
 Ol. cajuput..... gtt. i.
 S. To be taken in a small quantity of water, followed by larger draught.

Full doses of alkalies to be given at height of digestion.—

D. D. STEWART.

Two Essential Points in the Treatment of Dyspepsia.—First. In the treatment of all forms of indigestion, be it gastric or intestinal, a sterile diet must be insisted upon. This means absolutely sterile, or at least the attempt to make it so, and admits of no distinction between harmless and harmful micro-organisms. Bread made with yeast, as ordinarily eaten, must be considered a germ bearer, and butter also, even the choicest brands. It is the assumption that certain germs are harmless in the intestinal tract which is the cause of failure to relieve many dyspeptics.

The physician should look at this matter from the standpoint of the surgeon and make no distinction as to the kinds of germs. Micro-organisms are of no aid to digestion. On the contrary, they may derange and inhibit the process just as much as they do the healing of a wound.

Second. Limit or forbid entirely the ingestion of the organic acids in food or drink. We must remember that digestion is essentially an alkaline process. Even the acidity of the gastric

contents is only temporary and must not go beyond narrow limits.

It is proven that gastric digestion is not a life-sustaining necessity. It is necessary to a healthy and normal condition of the body, however, that the contents of the small intestine be maintained in an alkaline condition, so that peptone can be changed into serum albumin. Nature will neutralize a great amount of free organic acid in the intestine, but the alkali necessary is taken from the blood, and hence that fluid loses its normal alkalinity and a departure from a healthy and normal state at once ensues.

The elimination of micro-organisms and organic acids from the alimentary tract in dyspepsia oftentimes stands in the relation of cause and effect, for the micro-organisms themselves are the great producers of many of the organic acids.

Diet, then, being the great factor in the treatment of all kinds of dyspepsia, some of the distressing conditions may be relieved by the following medication:

For nervo-motor dyspepsia:

R Sodium bromide	℥ ij.
Codeine sulphate.....	gr. v.-x.
Carmin. C. P.....	gr. xxx.
Water (pure).....	℥ iv.

M. ft. sol. S. From half to a teaspoonful in hot or cold water, either before or after eating, as deemed best in each case.

The carmine is not added for its color. The writer believes that the carminic acid therein has germicidal powers. The following should be applied to the skin over the region of the stomach by brisk rubbing with a piece of new red flannel:

R Ungt. hydrargyri.....	℥ i.
Olei sinapis.....	gtt. xv.

M. S. Use a piece as large as a bean as directed, night and morning.

For an intestinal germicide the following seems to meet indications most successfully:

℞ Salophen..... 3 i.
 M. ft. capsulas No. xii. S. One capsule before eating. Take no acids while
 ing.

—A. H. HOY.

DIET.—Do not reduce the diet to the level of gastric capability, but elevate the gastric function to the requirements of normal food. Fruit should usually be freely allowed.

The banana is rather a vegetable than a fruit, practically the same as a sweet potato—a mass of raw-starch, some sugar, and often an appreciable dose of nitrite of amyl. It is not digested till the intestine is reached. Whenever the patient is well enough, be guided by his likes and dislikes, appetites and antipathies.—A. L. BENEDICT.

In flatulent indigestion :

℞ Zinci sulphocarbollatis..... gr. xij.
 Pepsini pur.,
 Pancreatis ext.....āā 3 ss.
 Bismuthi subgallat..... 3 ij.
 M. ft. chart. No. xii. S. One before each meal.

In indigestion, with much coating of the tongue, in nasopharyngeal catarrh, and especially in morning vomiting:

℞ Pulv ipecac..... gr. viij.
 Pepsini pur..... 3 ss.
 Pulv. rhei..... 3 i
 Sodii bicarb..... 3 iss.
 Tinct. nucis vomicæ..... 3 iv.
 Aquam menth. pip.....ad 5 viij.
 M. S. Tablespoonful before meals in half a glass of hot water.

—L. F. DONOHUE.

As a tonic and aid to digestion in atonic and fermentative stomachic indigestion :

℞ Liq. pepsini (Hancock's)..... 3 iv.
 Acidi phosphorici dil..... 3 ss.
 Strychninæ sulphatis..... gr. i.
 M. S. Teaspoonful in water three times a day after meals.

In the reflex nervous disturbances of stomach derangement, especially palpitation of the heart in so-called nervous dyspepsia :

℞ Zinci phosphidi,
 Sodii et auri chloridi.....āā gr. iss.
 Ext. nucis vomicæ..... gr.viiss.
 M. ft. pil. No. xxx. S. One three times a day after meals.

—UPSHUR.

Acute indigestion not relieved by cathartics:

℞ Resorcini..... ʒij.
 Sodii chloratis..... 3 i.
 Mist. rhei et sodæ..... ʒ ij.
 M. S. A teaspoonful every two or three hours.

—ANDREW H. SMITH.

When anorexia predominates:

℞ Tinct. nucis vomicæ..... ʒ i.
 S. Ten drops three times daily.

For the insomnia, chloral hydrate, sulphonal, or trional.

Gastritis.—Immediate effect is noted from hydrogen dioxide.

℞ Hydrozone..... 1
 Aquæ bul., or aquæ sterilizat..... 82
 M. S. ʒ ii. to ʒ iv. of such dilution half an hour before meals.

Nascent oxygen favors osmosis.—JOHN AULDE.

℞ Acidi hydrochlor. dil..... ʒ ss.
 Tinct. nucis vomicæ..... 3 ij.
 Liq. potassii arsenitis..... gtt. lxxij.
 Ess pepsini..... ʒ ij.
 Aquam..... ad ʒ vi.
 M. S. Two teaspoonfuls in water after meals.

Or—

℞ Fellis bovis purificati..... gr. i.
 Ext. pancreatini..... gr. i.
 Ext. colocynthis comp..... gr. ʒ
 Quininae muriatis..... gr. ss.
 Ext. nucis vomicæ..... gr. ʒ
 Ext. taraxaci..... gr. i.
 M. S. For one tablet. One or two before meals.

—WM. PORTER.

Flatulent dyspepsia:

℞ Sodii sulphatis..... 3 i.
 Tinct. nucis vomicæ..... 3 v.
 Aquæ..... ʒ iv.
 M. S. Teaspoonful t.i.d. after meals.

—I. BURNEY YEO.

R Magnesia,
 Phosphate of lime,
 Powdered charcoal,
 Sulphurāā p. æ.
M. S. Teaspoonful as required, taken in a little water.

Or—

R Olei creosoti..... ℥ xij.
 Spiritus tenuioris..... ʒ ss.
 Ammonii benzoatis..... ʒ ij.
 Glycerini..... ʒ vi.
 Infusi caryophylli.....q.s. ad ʒ vi.
M. S. Tablespoonful in a glass of water.

—DR. B. W. RICHARDSON.

Or—

R Olei cajuputi..... ʒ ss.
 Tinct. lavandulæ comp..... ʒ ss.
 Mucilag. acaciæ.....ad ʒ ij.
M. S. Dessertspoonful when necessary.

—HARTSHORNE.

For the violent spasmodic attacks, with great distention of the stomach and bowels, to which some sufferers from flatulence are liable, the following is nearly always efficacious:

R Spir. cajuputi (P. B.) ʒ ij.
 Spir. ammoniæ aromatici ʒ ij.
 Spir. chloroformi ʒ ij.
M. S. The antispasmodic mixture. One teaspoonful in a glass of water every half-hour or every quarter-hour until relief is obtained.

When flatulence is associated with pain after food and coated tongue indicating gastritis, the following prescription should be given:

R Potassii bicarb. vel sodii bicarb. ʒ ij.
 Spir. ammoniæ aromatici ʒ iss.
 Liq. strychninæ (P. B.) ʒ ss.
 Spir. cajuputi (P. B.) ʒ iss. - ʒ ij.
 Spir. chloroformi ʒ i.
 Infusi calumbæ vel gentianæ co. ʒ vi.
M. ft. mist. S. A sixth part three times a day between meals.

—STEPHEN MACKENZIE.

For painful digestion with flatulence :

℞ Sodii bromidi.....	4
Pepsini concentrat.....	8
Pulv. carbonis ligni	2
Aquæ pur.....	8
Glycerini	24

M. S. Teaspoonful after each meal.

—LANPHEAR

℞ Sodium bicarbonate.....	3 i.
Tincture of ignatia.....	gtt. xl
Tincture of senecio (P. B.).....	§ i.
Syrup of bitter-orange peel.	§ i.
Alcohol containing ten per cent of chloroform.....	3 ij.
Water	§ vi.

M. S. A tablespoonful three times a day.

—WM. MURRELL

℞ Bismuthi subnitratis,	
Magnesii sulphatis,	
Cretæ preparatæ,	
Calcii phosphatis	℥ 10

M. div. in cachets No. xl. S. One before each meal.

—DUJARDIN-BEAUMETZ

℞ Bismuthi subnitratis,	
Sodii bicarbonatis,	
Pulv. sacchari,	
Pulv. acaciæ,	
Pulv. zingiberis.....	℥ 10

M. S. A tablespoonful, for adults.

—W. E. WHEELOCK.

℞ Magnesia,	
Calcium phosphite,	
Powdered charcoal,	
Sulphur.....	℥ 15

M. S. Teaspoonful to be taken in water when necessary.

—PAUL CHÉRON.

℞ Tinct. cardamomi comp	3 iv.
Acidi hydrocyanici diluti	℥ xl
Spiritus ammoniæ aromatici.....	3 ij.
Tinct. zingiberis.	3 iiij.
Spiritus chloroformi.....	3 ij.
Aquæ cari.....	q.s. ad § vi.

M. S. Tablespoonful occasionally.

—CHARTERIS.

For the pyrosis :

℞ Pulv. kino..... 3 iv.
 Pulv. opii. gr. xv.
 Pulv. cinnamomi..... 3 i.

M. Divide into thirty powders. S. One thrice daily.

—SIR T. WATSON.

When associated with pain :

℞ Liq. bismuthi et ammonii citratis..... ʒ i.
 Infusi quassiae..... ʒ viij.

M. S. Teaspoonful three times daily.

—CARPENTER.

Tincture of nux vomica, gtt. v., in a small quantity of water
 ten minutes before eating.—RINGER.

Sodium bicarbonate, gr. xv., in water immediately after
 meals.—ALONZO CLARK.

*Dyspepsia Accompanied by Acne.—To excite glandular se-
 tion :*

℞ Potassii sulphatis,
 Sodii sulphatisāā 0.05 cgm.
 Pulv. ipecacuanhæ,
 Pulv. strych. ignatii seminis.....āā 0.01 “
 Sodii bicarbonatis 0.30 “

M. S. For one powder.

One such powder is to be taken before each meal, the St.
 ignatus bean being a stimulant to the muscular fibres of the
 stomach.—LEBON.

Tincture of ignatia amara may be taken in fifteen-drop doses
 after each meal.—MITOUR.

For atonic dyspepsia :

℞ Tincture of nux vomica 3 iiss.
 Resorcin..... gr. viij.

M. S. Five to ten drops three times a day.

For continued use in atonic dyspepsia the following formulæ
 in tablets:

℞ Pepsini..... gr. i.
 Strychninæ sulphatis..... gr. ʒss

Or—

R̄ Pepsini.....	gr. i.
Bismuthi subcarbonatis	gr. iij.
Strychninæ sulphatis.....	gr. $\frac{1}{16}$

In infantile dyspepsia and the subsequent atonic conditions of the bowels, these divisions of treatment are made: 1. Elimination of noxious elements by emesis, lavage (both rarely if ever called for), and catharsis. 2. Antifermentative medicines, as the various combinations of pepsin, resorcin, salicylic acid. In diarrhoea with markedly green stools, lactic acid, in small doses. The following combination is useful:

R̄ Creosoti	3-4 gtts.
Aquæ destill.....	85 gm.
Syrupi althææ.....	15 gm.
M. S. A small spoonful every two hours.	

3. Sedatives, warm baths, and light friction. For colicky pains a mixture of aqua chamomilla, subnitrate of bismuth, and syrup of anise often give relief. 4. Tonics and stimulants for the subsequent atony.

R̄ Tinct. cascarillæ.....	10 gtts.
Aquæ destill.....	50 gm.
Syrupi	10 gm.

Or—

R̄ Ext. cinchonæ.....	0.25 gm.
Syrupi aurantii	50 "
Aquæ destill.....	10 "
M. S. To be given in teaspoonful doses.	

—TORDENS.

The best aid to digestion is undoubtedly the ferment of the pineapple, after meals. To get the benefit of this, a fresh pineapple should be kept under glass, and a slice cut off after each meal, and its juice squeezed out by a pair of lemon-squeezers, and drunk without sugar, in cases of difficult digestion. The canned pineapple is of no service, being too sugary, and still worse are the vile preparations in alcohol, called by various names, and lately put out by manufacturing pharmacists.—S. O. L. POTTER.

To prevent gastric fermentation :

R Resorcini resublim	5
Bismuthi salicyl.,	
Pulv. radiceis rhei,	
Sodii sulphat	āā 10
Sacchari lactis	15
M. ft. cht. No. 1. S. One twice daily.	
—EWALD.	

Or, when excessive and associated with putrid diarrhœa :

R Betanaphthol-bismuthi benzoatis	3 ij.
Bismuthi salicyl	3 ij.
Magnesiæ ustæ,	3 ij.
Saccharini	3 i.
Mentholi	3 ij.
M. ft. cht. No. xii. S. One t.i.d.	
—HEMMETER."	

Indigestion of starchy food, constipation alternating with diarrhœa, bismuth naphthalate, gr. x.-xv., in powder or capsule after meals.—WILCOX.

When associated with enlarged liver:

R Sodii bicarb	gr. x.
Aquæ bul	O i.
M. S. Sip slowly before each meal.	

This also decreases desire for fluid with the food.

For the severe constipation of dyspeptics :

R Podophyllin	gr. v.
Ext. of nux vomica,	
Ext. of calabar bean	āā gr. viiss.
Ext. of gentian,	
Licorice powder	āā q.s.
M. ft. pil. No. xxx. S. One pill twice daily.	
—EINHORN.	

In infantile dyspepsia and functional digestive disorders of second childhood, somatose (88.37 per cent albumose, 7.46 per cent salts, and 0.24 per cent peptone) added to cow's milk.—WOLF.

Antiseptic lavage of the stomach :

R Sodii biboratis	3 ij.
Creolini	gr. iv.
Acidi salicylici	gr. xvij.
Thymolis	gr. iv.
M. S. Use with a siphon tube after clear-water lavage once a day.	
—ROSENHEIM.	

In motor dyspepsia with stasis and acid fermentation, warm-water injections before dinner and supper retained for fifteen to twenty minutes, and after the meal abdominal gymnastics.—FLESSINGER.

In infants, use a soft tube of 0.5 mm. diameter and attach to its upper end a rubber tubing 1 m. long with funnel.—LEO.

Stomachic tonic when recovering from atonic dyspepsia:

℞ Acidi nitrohydrochlorici 3 ij.
 Aquæ..... 3 iss.
 Strychninæ sulphatis..... gr. i.
 Misce et adde :
 Tr. gentianæ comp.,
 Tr. cardamomi comp.....℞ q.s. ad 3 vi.
 S. Dessertspoonful in water after meals.

—WOOD AND FITZ.

In hyperemesis :

℞ Cocainæ hydrochloratis..... gr. iss.
 Antipyrin..... gr. xvi.
 Aquæ destill..... 3 iv.
 M. S. Teaspoonful every half-hour until relieved.

—LUTAUT.

Hyperemesis gravidarum :

℞ Morphinæ hydrochl 0.2
 Acidi acetici glacial.....q.s. ad sol.
 Chloroformi..... 5.0
 Alcohol. absol..... 15.0
 M. S. Five drops in sugar water.

Or—

℞ Cocain. hydrochl 0.25
 Sacch. alb 3.0
 M. ft. pulv. No. x. S. One powder t.i.d.

—SCHAUTA.

Gastric catarrh :

℞ Acid. hydrochlorici (C. P.)..... 2.50 gm.
 Acid. azotici..... 0.80 cgm.
 Spir. vini rect. (90 per cent)..... 18. gm.
 Aquæ font..... 150. "
 Syr. limonis..... 100. "
 M. S. A teaspoonful in a half-glass of water after meals.

—*Le Progrès Méd.*

When vomiting is due to excitability of the mucous membrane:

℞ Tinct. aconiti..... gr. xxx.
 Bismuthi subnitrat. 3 iij.
 M. ft. chart. No. x. S. One powder every half-hour.

—HARE.

In dyspeptic vertigo :

℞ Acidi nitrici..... 3 i.
 Acidi muriatici 3 i-℥xl.
 Aquæ camphoræ..... ʒ viij.
 M. S. Shake. Take one tablespoonful in one-half cup of water thirty minutes before each meal.

—W. K. HARRIS.

Dyspepsia and vomiting in tuberculous subjects :

℞ Prepared chalk,
 Calcined magnesia ʒ gr. iij.
 Manganese dioxide..... gr. iss.
 Powdered belladonna..... gr. $\frac{15}{100}$
 M. S. For one dose, to be taken after eating.

If there is severe pain, fifteen one-hundredths of a grain of powdered opium may be added.—BARTH.

Dyspepsia, Nervous.

Here the many subjective symptoms occurring during digestion cannot be referred to any alterations in the stomach which can be demonstrated. Leube classes under this form all cases showing dyspeptic symptoms in which after a test dinner hydrochloric acid was found and the stomach was shown to be empty seven hours after the meal. There is an absence of organic lesion of the stomach.

DIAGNOSIS.—The appetite is usually decreased but is capricious. The tongue is usually clean. Soon after eating there are slight gastric pain, frequent belching, and disagreeable sensations, with a sense of drowsiness or irresistible desire to sleep so long as food remains in the stomach. Once the stomach is empty, the patient experiences a slight dizziness and is frequently depressed with hypochondriacal feelings and anxiety over trivial matters. Fulness and occasionally pain are felt in the abdomen from flatulency. The gastric juice may be found normal but a diminished acidity is frequent. Headache, insomnia,

pain in the back, seminal emissions, loss of energy, and palpitation upon slight exertion are frequently present.

Diagnosis is confirmed by the presence of neurasthenic symptoms and the absence of organic lesions. While easily digested food does not benefit the condition, indigestible substances often aggravate it. The complaints on the part of the patient are many and varied, and out of all proportion to the results of physical examination.

DIFFERENTIATION from ulcer and cancer is made by the absence of any of the characteristic features of these affections; chronic dyspepsia has a constancy in its symptoms and these are aggravated by errors of diet. Einhorn says that a characteristic feature of neurasthenia gastrica is the suddenness of changes in the patient's condition. He may feel entirely well for a few days and then be again wholly disabled.

PROGNOSIS is more favorable in emotional than in other nervous dyspepsias.

TREATMENT.—The entire nervous system must be strengthened. The direct means to this end are hydrotherapeutical measures of a mild nature, such as: (1) The cold pack and lukewarm sitz baths; (2) massage of the entire body with special massage of the abdomen; (3) electricity; (4) abundance of sleep and rest. The bromides are of great importance.

℞ Ammonii bromidi,
Sodii bromidi ʒi 1 gm.
M. ft. chart. No. xx. S. One twice daily in milk or water.

—EINHORN.

℞ Sodii bicarbonatis 3 iij.
Acidi hydrochlorici dil. gtt. xlvij.
Tinct. valerianæ ʒ i.
Syrupi zingiberis. ʒ ij.
M. S. Teaspoonful three times a day in water.

—CARPENTER.

℞ Sodii bromidi ʒ i.
Pepsini saccharati,
Pulv. carbo. ligni. ʒi 3 iij.
Aquæ ʒ iv.
M. S. Teaspoonful after each meal.

For nervous hyperacidity of the stomach :

R Strontii bromidi (pure) 3 iij.
 Aquæ menthæ piperitæ 3 xv.
M. S. Teaspoonful twice daily in milk at mealtime.

—EINHORN.

In gastralgia, hyperæsthesia, and hyperchlorhydria :

R Methylene blue 0.10–0.20 cgm.
S. For three capsules. To be taken daily.

—BERTHIER.

Neurasthenia gastrica :

R Ferri bromidi (P. G.),
 Quininæ hydrobromatis ãã 4
 Extr. et pulv. rad. rhei q.s.
M. et ft. pil. No. cxx. **S.** Two t.i.d.

—MAXIMOWITSCH.

Emotional Dyspepsia after Shock.—Avoid cold food. Small doses of opium and belladonna. Cognac. Direct treatment to the mental condition.—ROSENBACH.

Nervous Dyspepsia.—Failure of treatment is often due to failure of absorption of remedies employed because of theropy mucus, which should be first washed out.

Postprandial pains :

R Animal charcoal,
 Magnesia,
 Ginger.
M. For one tablet. **S.** To be chewed, dry, every half-hour.

—BARUCH.

Moderate pain may be relieved by hot milk or malted milk. *Severer paroxysms* by saturated aqueous solution of chloroform.

Or cocaine, gr. ss.

Caution.—This dose not to be exceeded—and to be given with great caution.

Pain several hours after eating :

R Bismuthi salicylatis,
 Magnesie calcinatæ,
 Sodii bicarbonatis ãã gr. v.–x.
M. S. At dose.

Severe Forms with Dilatation.—Wash out the stomach with gastric siphon.—H. M. LYMAN.

Eclampsia, Puerperal.

The prodromal symptoms of an attack of eclampsia include distress at the epigastrium, visual disturbances, and frontal or temporal headache of greater or less severity. The attack is convulsive, with a short tonic and a longer clonic stage, followed by unconsciousness of greater or lesser degree. A state approaching that of coma may succeed, or there may be numerous repetitions of the convulsive seizure. The latter may occur during, before, or after labor. The pre-eclamptic stage shows rapid heart action, diminished excretions, gastro-intestinal derangements, and other evidences of toxæmia.

There may be sudden complete or partial loss of sight. Just before or during the attack the albumin, while abundant, has the peculiarity of being wholly soluble or almost so in the presence of a small amount of acetic acid. In the premonitory period the albumin may be almost wholly of this nature.—BAR, MEUN, AND MERCIER.

DIFFERENTIATION.—General convulsions during the puerperium may be due to epilepsy or hysteria. The previous history of former attacks will aid in diagnosing epilepsy. An epileptic attack—which is of rare occurrence during labor—does not as a rule recur at short intervals, as does eclampsia. In the rare cases of hysterical attacks during labor, total loss of consciousness practically never occurs. If, during the attack, the pupil reacts to light, then neither epilepsy nor eclampsia exists. Deep coma in parturient women depends almost always upon eclampsia. A large amount of albumin in the urine speaks for eclampsia.—MAX RUNGE.

PROGNOSIS varies greatly with the time the symptoms come on. Remedies which are effectual in post-partum eclampsia are often useless in that occurring toward the end of pregnancy.

The greater the quantity of urine passed the better the prog-

nosis. The higher the temperature the worse the prognosis.—**TUCKER.**

TREATMENT.—This is either preventive or curative. Rational treatment is out of the question so long as the pathology is unknown. Large doses of morphine subcutaneously seem to be the best.—**VEIT.**

Caution.—In threatened eclampsia morphine is positively contraindicated.—**UPSHUR.**

Prophylaxis includes frequent examination of the urine for evidences of albuminuria, and a restricted and often exclusive milk diet if albumin is discovered.

This is a perfectly preventable disease, since it always gives signs of its approach, for several days, at least, if not for weeks before the attack.—**E. P. DAVIS.**

To prevent the occurrence of convulsions, care in diet, avoiding an overloaded stomach; frequent administration of saline cathartics, lithia water, and other diuretics to stimulate the kidneys. Prevent toxæmia by exclusive milk diet.

In the attack, the free administration of chloroform and prompt bleeding. Active cathartics if there is constipation. Prompt delivery; the first indication in a severe case being to terminate labor.

In the asthenic form, with full bounding pulse of 120 to 140 beats, congestion of the face, powerful muscular contraction, tincture of veratrum viride, ℥ x.—xv., hypodermatically. If no marked result, give in addition 10 minims after half an hour.

Caution.—In the asthenic form five minims is sufficient.

To lessen arterial blood pressure, lower temperature, and cause diaphoresis, guaiacol, gtt. xl.—l. Gently rub into the abdomen.—**APPLEBY.**

Eclampsia occurring before labor may often be benefited by hypodermic injections of morphine (gr. $\frac{1}{3}$ — $\frac{1}{2}$) and also of veratrum viride (6 to 20 drops of the tincture).—**PARVIN.**

Large doses of nitroglycerin, veratrum viride, and free catharsis, avoiding morphine.—**A. FLINT, JR.**

Norwood's tincture of *veratrum viride* in large dose (ten to twenty minims), preferably by hypodermic injection. The initial dose can be safely followed, in from thirty minutes to an hour, if necessary, by a dose of from five to eight minims.—BAUER.

After each attack chloral per rectum.

R Chloral	10
Syr. mucil. acaciæ.....	150
S. One tenth (15 gm.) per rectum.	

—WINCKEL.

If prostration and nausea are produced by *veratrum*, opium, diffusible stimulants, or morphine subcutaneously.—THAYER.

When the symptoms first show themselves, hot baths and narcosis. If the eclampsia precede parturition, premature labor is induced either by the introduction of bougies or by the use of the colpeurynter.—SCHREIBER.

The speedy evacuation of the uterus constitutes the most important means of treating eclampsia.—MANGIAGALLI.

Attend to the convulsions, and leave the labor to take care of itself.—GOOCH.

Especially no kind of obstetric manipulation is required for the safety of the mother.—SCHROEDER.

Begin, if the patient is strong and vigorous, and if cyanosis is present, by a bleeding of from 200 to 300 gm.; then give chloral, and give milk by the mouth.

Combat the attacks themselves by inhalations of chloroform, and favor diuresis by subcutaneous injections of salt solution.

If the woman is delicate, the cyanosis is not very marked, the attacks are not very frequent, chloral alone should be given.

Wait until the labor occurs spontaneously, and allow it to end without intervention whenever this is possible.

If labor comes on spontaneously but does not end, because the uterine contractions are too feeble or too slow, end the labor by the application of the forceps or by a version, followed by ex-

traction, if the child is living, or by a cephalotripsy, basiotripsy, or cranioclasys, if the child is dead.

Before intervention, wait until there is complete dilatation, or at least a dilatability of the cervix, in order that the operation may be done without danger; that is to say, without violence, and consequently without danger for the mother.

Reserve induced labor for a few exceptional cases.

Reject, absolutely reject, the Cæsarean operation and accouchement forcé as current methods.—CHARPENTIER.

Adopt the course which seems least likely to prove a source of irritation to the mother. Thus, if the fits seem evidently induced and kept up by the pressure of the foetus, and the head be within reach, the forceps may be resorted to. But if, on the other hand, there be reason to think that the operation necessary to complete delivery is likely *per se* to prove a greater source of irritation than leaving the case to nature, then we should not interfere.—TYLER SMITH.

Rupture the membranes and empty the uterus as soon as possible without resorting to violence or adding to the nervous irritability of the woman.—MCLANE.

Hypodermic of morphine followed with five or ten minims of tincture of veratrum viride by same method.—PAGE.

Nitroglycerin, one-one-hundredth grain every hour.

To diminish toxicity of blood, saline injections in almost unlimited quantities (six and one-half pints in twenty-eight hours).—SOLÉ.

Caution.—Use with care when the kidneys are themselves affected.

Venesection, in purely neurotic cases.—CRAMPTON.

Care should be taken to select the proper case for venesection, and it will be specially indicated when there is marked evidence of great cerebral congestion and vascular tension, such as a livid face, a full, bounding pulse, and strong pulsation in the carotids.—PLAYFAIR.

Also useful in other forms.—WILLIAMS.

We have not yet sufficient data from which to draw conclusions.—VEIT.

Chloroform anæsthesia to control the convulsions; if not promptly effective, the uterus must be speedily emptied. Rapid dilatation, first with steel dilators, if need be, then with the hand, followed by the forceps. *Veratrum viride* is uncertain, dangerous, and deceptive.—W. WARREN POTTER.

Experience seems to justify the statement that no convulsions will occur while the patient is sufficiently under the influence of *veratrum* to hold the pulse below sixty. Empty the uterus too soon rather than too late.—JEWETT.

Chloroform inhalations are of benefit, but tend to promote fatty degeneration of the heart.—S. S. JONES.

In the post-eclamptic stupor magnesium sulphate in concentrated solution, or Villacabras water introduced by means of a long rectal tube high up in the descending colon. As a diuretic and anti-eclamptic, glonoin cannot be overestimated and only *veratrum viride* is second to it in value.—J. CLIFTON EDGAR.

Embolism and Thrombosis.

In embolism the symptoms are of sudden occurrence and vary with the particular artery which has been obstructed. If it is the middle meningeal artery which has become occluded by an embolus, we have hemiplegia or monoplegia and aphasia. If it is the pulmonary artery, cough, dyspnoea, and hemorrhage will occur with great suddenness. The diagnosis is here aided by the knowledge of preceding right-side dilatation of the heart and mitral regurgitation. If a terminal artery in an extremity or internal organ becomes occluded, necrosis, gangrene, softening of a given area (brain), or engorgement of the part may occur.

DIFFERENTIATION.—Thrombosis is suggested if there be several attacks in quick succession, little or no rise in temperature, the resulting symptoms coming on slowly. Embolism is suggested if the heart shows an affection such as is likely to result in embolus. In thrombosis there may be a history of vertigo, headache, loss of memory with stupor just before the symptoms referable to sudden closing of the blood-vessel. In thrombosis of atheroma, facial paralysis may come on first and that of the arm and leg only some hours later.

In cerebral embolus the subject is younger than in apoplexy, the pulse is more rapid and feeble, aphasia is more common, hemiplegia is more likely to be only partial, complete loss of consciousness is not so common, and improvement is often followed by relapse.

For thrombosis of the cerebral sinuses giving symptoms of general cerebral compression from abscess, see works on surgery.

Functional monoplegia may closely simulate cerebral embolism. Sudden and complete recovery proves the nature of the paralysis.

Cerebral Embolism.—At any age with heart disease or after childbirth. Sudden onset with no loss of consciousness or slight condition of mental confusion or rapid return of consciousness. Improvement occurs within twenty-four hours to a marked degree, but symptoms return in three or four days and are permanent. Either monoplegia, hemiplegia, or aphasia.

Cerebral Thrombosis.—At any age, but chiefly in syphilitic persons and in middle-aged men. Premonitions usually occur. Slower onset without coma, but dulness of mind.

The diagnosis between cerebral hemorrhage, thrombosis, and embolism is never positive.—M. ALLEN STARR.

PROGNOSIS.—Sudden death not infrequently follows the blocking of one of the coronary arteries.—OSLER.

Recovery may be so complete as to leave scarcely a trace, but

unless no injury has been done to brain substance it can never be sudden.

Care should be taken that a thrombus does not give rise to emboli. The part should be kept in perfect rest until absorption of the thrombus takes place. Avoid massage above all, for by its use detachments of emboli are favored.

Embolism and thrombosis of the brain :

R̄ Potassii iodidi ℥viii.
 Liq. potassii arsenitis..... 3 ss.
 Aquæ q.s. ad ʒij.
 M. S. 3 i. t.i.d. after meals.

—R. C. M. PAGE."

In thrombus of the vulva during pregnancy, cold applications.

During labor intervention is called for only in case of spontaneous rupture of the sac. Terminate labor quickly. Turn out clots and pack.

After delivery open only if necessary; lavage, antiseptics.—
 CHARPENTIER.

Emphysema, Chronic.

In all chronic emphysema of the lungs, with the exception of the senile form, in which it is flattened, the chest is barrel-shaped with rounded back, and there is often a network of dilated blood-vessels opposite the juncture of the diaphragm with the thoracic walls. The tricuspid often becomes insufficient, leading to general dropsy.

Expiration is greatly prolonged and accompanied with loud whistling rhonchi, and nocturnal paroxsyms of dyspnœa may make the distinction from asthma necessary.

Percussion gives a drum-like, hollow resonance.

PROGNOSIS.—The patient may live almost as long as he otherwise would, but recovery from the condition is practically out of the question.

TREATMENT.—In emphysema of bronchial origin, mineral

waters. In arthritic subjects, mixed carbonated waters. In association with catarrhal asthma, waters containing sulphur or soda, alone or in combination with metallic sulphides.—**MAZEAUX.**

In emphysema of lungs alone, or complicating bronchial asthma, breathing into rarefied air is promptly effective, curing the latter form. As seen in so many cases after a paroxysm of bronchial asthma, the emphysematous condition remains behind and is very difficult to manage by any other means.—**S. O. L. POTTER.**

℞ Essence of turpentine..... 4–5 gm.
 Peppermint water..... 120 “
 Sugar,
 Powdered gum acacia 4 “
M. S. Dessertspoonful every two or three hours.

Twenty days in each month it has been recommended to take with each meal:

℞ Potass. iodidi..... 10 gm.
 Aquæ.....q.s. ad 300 c.c.
S. Teaspoonful.

During the remaining ten days:

℞ Sodii arsenatis... 0.10 cgm.
 Aquæ..... 300. c.c.
S. Teaspoonful.

Every eight days at bed-time:

℞ Aloes ... 0.10–0.15 cgm.
 In pill.

To drink milk with meals and exclude tobacco and alcohol, and if possible to take compressed-air baths.

See also under Asthma.

Emphysema, Vesicular.

Vicarious enlargement of the alveolar spaces occurs in the lung previously altered by disease (pneumonia, pleuritis, atelectasis).

Vesicular emphysema comes on gradually but ends in a slow chronic process associated with bronchitis and often with asthma.

Expiratory dyspnœa is the chief symptom.

DIFFERENTIATION is to be made in the early stages by difficult breathing following exertion alone. Later the signs are overshadowed by those of the accompanying bronchitis or asthma. There is a prolonged and usually weak expiratory sound.

The lower border of the lung is as a rule one to two intercostal spaces lower than normal. On the right side we often hear the hyperresonant note down to the lower border of the seventh or eighth rib and on the left side to the fifth or sixth rib, so that the heart dulness is diminished and at times absent.

—STRÜMPPELL.

TREATMENT.—

- R** Extr. quebracho..... 5
Aquæ fontis 180
Syrupi althææ..... 20
M. S. Tablespoonful every three hours.

—NEUSSER.

- R** Potassii iodidi..... 3 i.
Extr. digitalis fld..... ℥xxiv.
Extr. convallariæ fld 3 ss.
Syrupi aurantii florum..... 3 ij.
Aquæ..... q.s. ad 3 vi.
S. Tablespoonful every four hours.

The emphysema is favorably affected by an out-of-door life in a suitable climate; by abstinence from alcohol, tobacco, sugars, and starches, and by methodical inhalations of compressed air.—DELAFIELD.

For the dropsy :

℞ Pulv. digitalis..... ℥ ss.-i.
 Aquæ..... ℥ vi.

℞. For an infusion. ℥ ss. t.i.d.

—NIEMEYER.

When associated with chronic bronchitis and loss of appetite :

℞ Potassii chloratis..... 3 iss.
 Tinct. belladonnæ 3 iss.
 Syr. pruni virginianæ,
 Tinct. cinchonæ compos āā ℥ ij.

℞. S. 3 ii. four times daily.

—DA COSTA.

For the paroxysmal cough :

℞ Tinct. lobeliæ 3 ij.
 Spt. ætheris sulph 3 iij.
 Tinct. conii 3 ij.
 Mist. amygdalæ..... ad ℥ vi.

℞. S. ℥ ss. every three hours.

—CHARTERIS.

℞ Potassii iodidi gr. xxxvi.
 Ammonii carbonatis 3 i.
 Tinct. scillæ,
 Tinct hyoscyami..... āā ℥ ss.
 Aq camphoræ..... ℥ v.

℞. S. ℥ ss. t.i.d.

—GREENHOW.

Arsenical cigarette :

℞ Potassii arsenitis..... gr. xv.
 Aquæ destillatæ ℥ i.

Insized white paper is thoroughly moistened with this solution, dried, and cut into twenty equal parts, and each part rolled into a cigarette. Two or three of these are smoked daily.—

ROBERTS BARTHOLOW.

Tabacum smoked, relieves the bronchial spasm.—
 CHAMBERS.

Empyema.

The physical signs of pus in the pleural cavity are the same as those given by pleurisy with effusion. The temperature goes higher (105°); chills and profuse sweats may occur; and there is a history of preceding disease (pleurisy, pneumonia, phthisis, etc.).

In children there may be oedema of the chest wall, and the network of subcutaneous veins may be very distinct.

The breath sounds may be loud and tubular over a purulent effusion of considerable size.—OSLER.

Fremitus produced by whispering voice is not transmitted to the hand placed upon the chest as in simple serous effusion.—BACELLÉ.

Indican in the urine and albumosuria and usually leucocytosis are present. Most pleurisies in children are purulent.—GERHARDT.

DIFFERENTIATION.—Aspiration must often be resorted to in order to distinguish from serous effusion; from a chronic form of pneumonia in infancy. If during pneumonia in children a pinched, anxious expression is assumed, suspicion should be aroused and the needle used. In that following pneumonia the upper line of dulness does not vary with change of position and the "Ellis line" of simple serous effusion is not present.—BABCOCK.

The dislocation of the heart and the displacement of the liver are more marked in empyema than in sero-fibrinous pleurisy.

Subpleural abscess simulates empyema so as to be habitually taken for it. Microscopic examination of the aspirated pus alone will decide the question.—BUSHNELL.

Pulsating empyema is distinguished from thoracic aneurism by being on the left side, extensive dulness at the base, pulsation influenced by pressure and respiration.

PROGNOSIS.—The prognosis is more favorable in children

than in adults; in those operated on early than in those operated on later. It is unfavorable after septic poisoning has begun, and when the empyema is caused by the rupture of an abscess into the pleural cavity.—DELAFIELD.

Most children get well after simple incision and drainage.—BROTHERS.

Prognosis is modified by the special causative agent. If the pneumococcus is alone present, a rapid recovery is to be looked for. Streptococci give rise to a more severe affection than staphylococci.

A sterile exudate suggests tuberculosis. —OSLER.

TREATMENT.—Open in the fifth space of the midaxillary line. Irrigate only when fetid.

Before the age of twenty-three it is unnecessary to resect the ribs. Freeze the skin with chlor-ethyl spray for the incision. In double general effusion operate first on the left side: local anæsthesia.—CAUTLEY.

The regular procedure is to feel for the first rib below the angle of the scapula, to cut down on this rib and remove it up to its cartilage, to put in a large drainage tube, sew up the wound, and dress with bichloride. The dressings are to be changed as seldom as possible, the chest is not to be washed out, and the drainage tube should be removed at the end of the fourth week.—DELAFIELD.

Encephalitis.

In the acute hemorrhagic form, stupor suddenly develops after a period in which headache, dizziness, and general malaise have been the chief complaints. Coma supervenes and respiration is rapid, the pulse and temperature increase, and the pupils become fixed.

DIAGNOSIS.—Sudden stupor after a day or two of vertigo and headache points to numerous minute hemorrhages, while

persistent headache and signs of brain pressure coming on a week or two after injury point to a suppurative form (brain abscess). (See p. 1.)

PROGNOSIS.—Death usually occurs within forty-eight hours; still recovery may take place with impairment of function.

TREATMENT.—*In sthenic cases* blood-letting and free use of calomel.—(OPPENHEIM.

In brain abscess, trephining. (See works on surgery.)

Acute hemorrhagic encephalitis may occur in adults, either as a primary acute disease or secondary to other acute diseases, especially influenza. In these cases there is a sudden development of headache, unconsciousness, hemiplegia, high fever, and death. Mild curable cases of acute encephalitis also seem to occur in adults.

The hemiplegia of infants (hemiplegia spastica infantilis) depends in most cases upon an acute encephalitis.—STRÜMPPELL.

In encephalitis following contusion, we should treat the inflammation precisely as we would in other regions of the body, always remembering that in the brain, by reason of the bony case in which it is retained, it is impossible for an exudation or hemorrhage to find its way to the surface without surgical assistance.—KEEN.

Enteritis, Acute Catarrhal.

The chief distinction between enteritis and diarrhœa is that in the former the cause persists, while in the latter it does not. Enteritis implies the presence of inflammation. It may exist without diarrhœa, but this is the exception and very frequent passages are to be expected.

DIAGNOSIS.—The dejections may contain undigested food, are colorless in the absence of bile, grass green when bile passes rapidly through the canal, and occasionally they contain blood. The passages vary from watery to mush-like consistence. Ab-

dominal pain is of spasmodic character, referred to the lower abdomen for the most part. In infectious forms and in high grades of inflammation there are fever and perhaps chills followed by perspiration and more or less marked symptoms of collapse.

DIFFERENTIATION.—From colitis, by the dejections being more watery, while in the latter they contain more mucus and are more homogeneous and show fæcal flakes or scybala.

Colitis gives the greater amount of abdominal pain, while in enteritis vomiting is a more frequent symptom. If indican is found in the urine it points to enteritis rather than to colitis. If the mucus be blood-stained, the large intestine is more likely to be the source. Tenesmus points rather to proctitis or inflammation of the rectum. Chronic enteritis has the presence of mucus as a more constant symptom, and here too we may have a pseudo-membranous form if the discharge contains shreds or casts or an ulcerative form may exist.

TREATMENT.—*In infants*, intestinal washing with child lying first on one side and then on the other.

If diarrhœa is fetid, calomel, one grain.

In convalescence, absolute diet of boiled milk, soup-
spoonful every hour.—GRANCHER.

After washing the bowels :

℞ Bismuthi subcarbonat.	3 i. – 3 ij.
Spir. myristicæ	℥ xx.
Spir. vini gallici	3 ij.
Listerine	℥ ss.
Misturæ cretæ	q.s. ad 3 ij.

M. S. Teaspoonful every three hours until relieved.

Or—

℞ Bismuthi subnitrat	3 i.
Syr. rhei	3 ij.
Listerine	3 vi.
Mist. cretæ	3 i.

M. S. A teaspoonful every three hours to a child a year old.

Or—

℞ Bismuthi subnitrat̃s ʒ ij.
 Salol ʒ ss.
 Tinct. opii camphorat̃e,
 Tinct. catechu comp. āā ʒ ij.
 Mucil. acacĩe ʒ i.
 Syr. simplicis q.s. ad ʒ iv.
 M. S. Teaspoonful every three hours.

Or—

℞ Liquor potassii arsenitis ʒ ss.
 Tinct. opii deodorat̃e ʒ i.
 Tinct. calumb̃e ʒ iv.
 M. S. ʒ ij. every two or three hours.

—MARTIN.

In children, the milk should be scalded and not boiled.

Barley water (1 to 32) exerts an astringent action. If there are feverish vomiting and frequent stools, substitute one raw egg in eight ounces of water. Light chicken broth. Brandy and water in ten-drop doses six or eight times daily. Lavage, using a soft rubber (No. 11 or 12) catheter and fountain syringe.—E. P. DAVIS.

℞ Resorcin 5
 Bismuthi salicylat̃is,
 Tannigen āā 15
 Sacchar. alb.,
 Sodii carbonatis āā 7.5
 M. et ft. pulv. S. A small even teaspoonful every two hours.

In acutely inflamed intestinal segment:

℞ Chloral hydrat 3.0–5.0
 Tannic acid 1.5
 Lime water ad 500
 M.

One-quarter to one-third of this quantity is to be mixed with twelve ounces of warm water or thin starch water, and of this five or six ounces or more may be injected into the bowel, and should be retained as long as possible.—EWALD.

In severe pain, leeches to the anus. Poultice over the belly. Enemata with laudanum.—PAUL.

Enteritis, Chronic Catarrhal.

Chronic intestinal catarrh, mucous colitis, or chronic diarrhoea is characterized by six or eight loose passages with or without pain occurring in twenty-four hours; the diarrhoea alternating with periods of constipation. The mucus may be either intermingled with fæcal masses or may permeate or coat over the scybala. Adult patients are apt to be irritable or depressed, even to the point of hypochondriasis, while children are emaciated and weak. If blood and pus are more or less constantly present or if tissue fragments occur, it is indicative of the ulcerative form. An examination with the speculum may reveal ulceration as high as the sigmoid flexure.

In mucous colitis, considered as a functional neurosis, Dr. W. Mendelson makes neurasthenia, mucous passages, and abdominal pain the three cardinal symptoms. It is usually mistaken for an inflammatory or ulcerative condition.

PROGNOSIS for recovery is bad. While recovery may take place in favorable cases, the disease extends over months and even years. In the last-mentioned form it depends upon the class of neurasthenics to which the patient belongs.

TREATMENT.—Flax-seed injections, opium, and castor-oil.—DELAFIELD.

When neurasthenia is primary, rest cure; daily irrigation of the bowels at 100° F., a quart or two of water being retained for ten or twenty minutes. The fewer drugs the better.—MENDELSON.

℞ Hydrargyri chloridi mitis..... gr. i.
 Tinct. rhei,
 Tinct. cinchonæ..... āā ʒ i.
 M. S. ʒ i. twice a day.

—SIR ASTLEY COOPER.

In duodenitis and ileitis the dietetic plan of treatment is most important. Avoid fats and starches.

In colitis, irrigation.

When membranous-like masses are expelled, remove depressing influences. Change of climate, electricity; nutritious diet.—JOHNSTON.

When involving the small intestine almost exclusively, utilize the stomach for digestion. Keep the intestinal tract clean by frequent and thorough opening. Albuminous food, meat diet—scraped steaks, slightly cooked meat balls, with strong beef tea as a gravy. Salad without dressing, dry toast or crackers. One or two cupfuls of hot water before each meal. Persevere with this diet for several months, and very gradually return to mixed food.—N. S. DAVIS, JR.

Chronic diarrhœa of many months' or even of several years' duration may be sometimes cured by strict confinement to bed and a diet of boiled milk and albumen water.—OSLER.

Enteritis, Membranous.

A form of diarrhœa in which the dejections contain much mucus may resemble a membrane, which is discharged often after the passage of fæces. There is pain before and at the time of discharge. The latter may resemble shreds or tapeworm-like fragments, or, larger masses may be passed, which simulate casts of the lower bowel.

Ascarides may complicate the affection.—SNOW.

The cases are almost invariably seen in nervous or hysterical women or in men with neurasthenia. It occurs occasionally in children.—OSLER.

The disease belongs to middle life, and is more common in women than in men.—DELAFIELD.

TREATMENT.—Treat the affection of which the condition is symptomatic.—TYSON.

If constipation exists, emulsion of almond oil and turpentine, or castor oil and turpentine.—CARPENTER.

For the abdominal pains of muco-membranous enteritis :

R Menthol..... gr. iij.
 Alcohol..... sufficient to dissolve.
 Simple syrup..... 3 vi.
 Water..... 3 iij.

M. S. Teaspoonful.

—MATHIEU.

Infantile muco-membranous enteritis :

R Sodii bicarbonatis,
 Magnesiæ calcinatæ..... ãã 0.25 cgm.
 Pulv. nucis vomicæ..... 0.01–0.02 cgm.

—COMBY.

The most useful drugs are the alkalies, the mineral acids, small doses of castor oil, ipecac, and sometimes small doses of opium. There is also sometimes an advantage in the use of large enemata of cold water and of massage of the abdomen.—**DELAFIELD.**

Or—

R Olei terebinthinæ..... 3 i.
 Olei amygdalæ express..... 3 ss.
 Tinct. opii..... 3 ij.
 Muc. acaciæ..... 3 v.
 Aquæ laurocerasi..... 5 ss.

M. S. 3 i. every three, four, or six hours.

—BARTHOLOW.

In the chronic form, tannigen, gr. iii.–viii. per diem. For an infant gr. iss.—KUNKLER.

Freedom from care and worry is sometimes almost essential to the cure. In the majority of cases the condition does not yield to treatment.—**CROUCH.**

Enterocolitis, Acute.

This is found especially in the heated term, affecting teething children or those between the ages of six and eighteen months.

It may set in at any season of the year, and is the form of enteritis most common as a secondary complication in the specific fevers of childhood.—**OSLER.**

DIAGNOSIS.—The abdomen is enlarged and tender. The passages are small, mucoid, and sometimes bloody, and may number from twenty to thirty in the twenty-four hours. Though at first painless, the stools may subsequently be attended with considerable discomfort. Emaciation is very rapid. The fever may reach 104° F.

DIFFERENTIATION.—From cholera infantum, by the vomiting being much less prominent, by the fever being habitually lower, and by the absence of colliquative diarrhoea and collapse. From dyspeptic diarrhoea, by the greater severity of the symptoms.

PROGNOSIS is more favorable than in cholera infantum. A given instance may be protracted for from four to six weeks and may then end in recovery or in death. Extreme cases with convulsions as an early manifestation may run a rapidly fatal course. The prognosis depends very greatly on the ability to secure adequate hygiene and nourishment.

TREATMENT.—Dietetic treatment is important and similar to that indicated in the chapter on dyspeptic diarrhoea.

If there be much decomposition, with foul and offensive stools, the albuminous foods are to be withheld and carbohydrates given. If there be acid fermentation, with sour but not fetid stools, an albuminous diet is indicated.—ESCHERICH.

Withhold milk, and feed the child, for the time at least, on egg albumen, broths, and beef juices. The whites of two or three eggs in a pint of water, with a teaspoonful of brandy and a little salt, make an excellent egg albumen.—OSLER.

Injections with borax, 3 i. to O i., or dilute nitrate of silver.—OSLER.

No milk for a few days. Give the following instead:

R Barley..... 3 i.
Water O i.

Boil for 10-15 minutes until O ss., strain and add a little salt, the white of an egg, a teaspoonful of brandy, and a pinch of sugar.

—JACOBI.

Anodynes to relieve suffering.

The colon may be flushed with a one-per-cent. cold salt solution.—TYSON.

In young children irrigation of the bowels, especially if the colon is largely involved. Bismuth and calomel internally. The routine use of opium and astringents is deprecated.—CLERNOW.

In infancy, proper feeding, removal of irritants. Tannigen, gr. i. Repeat every few hours as required. This drug has the advantage of being insoluble in the stomach.—M. A. CLARK.

Enterocolitis (Muco-Membranous) in the Adult.—Castor oil is the best laxative. As a succedaneum:

℞ Magnes. calcin.,
Sulphur. loti,
Potass. bitart.....āā 20
S. A teaspoonful before each meal.

—G. SÉE.

℞ Podophyllin,
Euonymin. āā 0.40
Ext. bellad 0.20
Ext. hydrastis canad..... 1.
M. ft. pil. No. xx. S. One or two at dinner.

—G. LYON.

Picric-acid enemata, 1:120.—CHÉRON.

Large enemata of oil.—FLEINER.

In the attacks of paroxysmal pain repose in bed, hot compresses, belladonna by the mouth, or morphine under the skin.

Enteroptosis.

Under this general term, which signifies a prolapse of the intestines alone or more commonly of other organs too, we will include gastropptosis, coloptosis, hepatoptosis, and splenoptosis.

DIAGNOSIS.—The symptoms may be largely those of co-existing affections chiefly implicating the stomach and bowels. Faintness or weakness on getting up or after exertion is often noted. Patients are usually thin, have flaccid abdominal walls;

the abdominal aorta is readily felt to pulsate. Sinking of the stomach can be demonstrated by: (1) Splashing sound, elicited by tapping upon the left side of the abdomen below the ribs when the stomach is partially filled; (2) inflation of the stomach with gas; (3) gastroduaphany (Einhorn). If the condition is kept in mind it does not readily escape detection. Encircling the waist with both hands and raising the viscera gives relief and is a valuable diagnostic sign.

TREATMENT.—Apply an abdominal supporter which lifts the organs, and is prevented from slipping upward by straps at the thighs. There should be openings corresponding to the iliac crests.

Suitable exercise, ample nutrition.

Rubber plaster cut to cover the whole abdominal wall, tapering off behind with two extra pieces for support of the hypogastric, inguinal, and iliac regions. This is especially efficacious in reflex vomiting and cough caused by gastroptosis or floating kidney. Unna's pink rubber plaster may first be applied to protect the skin from undue irritation.—A. ROSE."

Enuresis.

Here we must consider the incontinence of urine as it occurs in childhood and as it affects the adult under varying conditions. At all ages of life we have to distinguish between incontinence *per se* as a neurosis and as a symptom of various disorders, among which are to be enumerated stone in the bladder, cystitis, genital defects and disease, relaxation of the sphincters, tabes, prolapsus uteri, and a great variety of others. An etiological diagnosis of the particular form of incontinence should so far as possible be made. When habitual and followed by morning headache, epilepsy may be suspected.

DIAGNOSIS.—Nocturnal incontinence in a subject of mouth

respiration may be due to the presence of adenoid growths in the nasopharynx. The presence of stone detected by the passage of a searcher will reveal the cause more often in the adult than in the child and open the way to cure. Elongated and adherent prepuce is a most fruitful source of irritation in enuresis by day as well as by night, and many patients will be relieved by stripping the prepuce from the glans or by circumcision. The presence of ascarides may be found as the irritating cause, and chronic anæmia is a frequent condition causing reflex irritability.

In the adult female, according to Boursier, it is one of the earliest symptoms of prolapsus uteri. The loss of urine occurs only when the patient is in the upright position, and it may or may not be attended with pain. The dribbling disappears, however, upon the patient's assuming the recumbent posture. Existing as a neurosis, we have a sudden loss of urine from reflex contraction without dribbling.

The exact cause of nocturnal incontinence or bed-wetting in children cannot always be determined. When *enuresis diurna* coexists, it is evident that loss of control, due simply to the sleeping state, cannot be claimed. If such causes as diabetes, bacteriuria, intestinal worms, local irritation from adherent prepuce, vulvo-vaginitis, or other genital defect or disease can be found and remedied, the cure is simplified.

The following varieties are recognized: Enuresis atonica—enuresis from debility; continua—incontinence of urine both day and night; diurna—incontinence of urine by day; irritata—enuresis from irritability; mechanica—enuresis from mechanical causes; nocturna—nocturnal enuresis; paralytica—enuresis associated with paralysis of bladder; and spastica—enuresis due to spasm of bladder.—FOSTER.

PROGNOSIS.—The condition may persist during several years or at times during the whole period of childhood, occasionally extending into adult life. When seen after puberty some

organic cause must be looked for. Examination of the urine may lead to the discovery of diabetes. A combined diurnal and nocturnal form gives the worst prognosis.

TREATMENT.—If an etiological diagnosis has been made, measures looking toward the removal of the cause will naturally be in order. Success frequently depends upon finding as a source of reflex irritation a narrow meatus, adhesions about the vulva, prepuce, or clitoris, ascarides, adenoids in the nasopharynx, etc.

When nocturnal only and without discoverable cause, unstimulating diet; little fluid, especially in the evening; as perfect hygiene as possible; instruction to the mother to awaken the child at a stated hour and place it upon a vessel to urinate. This is also to be repeated in the early morning. Moral influence should be exerted upon the child's mind and its pride appealed to, if of suitable age, since the will power is capable oftentimes of exerting a decided restraining influence. In a number of instances I have had success in using the following modification of a formula originally proposed by Kelaiditis, especially in the purely nervous form:

℞ Cupri sulphat. ammoniat. gr. vi.
Liquor ammoniæ gtt. x.
Aque destil. ℥ i.

M. S. From one to six drops (according to age) in water morning and night.

I have also seen cures effected while the patient was taking:

℞ Ext. rhois aromat. fld. gtt v.-x.

every four hours in water, gradually increased to double the dose. Belladonna is usually well borne by children and in gradually increasing doses has at times given excellent results.

℞ Ext. rhois aromaticæ fld. ℥ iiss.
Ext. ergotæ fld. ℥ ss.
Ext. belladonnæ fld. ℥ ss.
Strychninæ sulphat. gr. ½
Syr. aurantii corticis. ad ℥ iv.

M. S. Teaspoonful four times daily.

The quantity of belladonna may be increased, and if this fails after a fair trial increasing doses of atropine may be used.

- ℞ Neutral sulphate of atropine in two-per-cent sol. ʒ iss.
 Muriate of strychnine in one-per-cent sol. gtt. iv.
 Syrup of bitter almonds ʒ viiss.
 M. S. From five to sixty drops every evening on going to bed.

Commence with five drops ($\frac{1}{32}$ gr.), and increase by five drops in water every fourth evening until thirty drops per diem are administered.—MACALISTER.

The cold shower bath or the cold douche each night before the patient retires. In nervous, delicate children, one dash of cold water over the shoulders is sufficient. Friction of the surface should usually follow the douche. In obstinate cases we may use the ice bag to the spine or apply electricity.—PRENDERGAST.

Tincture of belladonna, ʒ i., S. gtt. vi. at eight in the evening, and increase every evening by one drop, until it flushes the face, after which decrease one drop, and continue till relieved. Then diminish dose two drops every week.—S. E. WOODY.

For an adult :

- ℞ Tinct. ferri chloridi,
 Tinct. nucis vomicæ āā ʒ ss.
 Tinct. cantharidis ʒ vi.
 Syr. simplicis ʒ ij.
 Aquæ q.s. ad ʒ vi.
 M. S. ʒ i. t.i.d.

—HOLLISTER.

For middle-aged and old women :

- ℞ Tinct. cantharidis ℥ ij.
 Tinct. hyoscyami ℥ v.
 Aquæ destillatæ ʒ x.
 Fiat haustus. Repeat four times daily.

—GREGORY.

For a child :

- ℞ Strychninæ gr. i.
 Pulv. cantharidis gr. ij.
 Morphinæ sulphatis gr. iss.
 Ferri pulv. ʒ i.
 M. et ft. pil. No. xl. S. One thrice daily.

—S. D. GROSS.

R Extr. jaborandi fld.,
 Extr. belladonnæ fld.....āā 3 i.
 Extr. tritici repentis fld..... 3 m.
 Extr. ergotæ fld.,
 Extr. rhois aromaticæ.....āā 3 i.
 Aquæ 3 m.
 M. S. 3 i. thrice daily.

—S. W. ARMITAGE.

Incontinence Accompanying Chorea.—Quinine sulphate, gr. v. at a dose, to be gradually increased.—POTTS.

Vigorous spanking applied to the nates works well in a large percentage of cases if the full psychical effect is obtained.—SANGER BROWN.

Minute doses of atropine up to the physiological effect (Watson method) give good results.—H. E. TULEY.

One large dose in the evening, to be gradually increased every four or five days, is a better plan.—COUTTS.

Massage applied to the neck of the bladder through the rectum daily for from five to eight minutes at a time.

In bacteriuria, washing out of bladder.

In incompetency of the sphincter:

R Extr. ergotæ aq. gr. ss.
 Extr. nucis vomicæ gr. ½

Bromides at night.—BARTHOLOW.

Diminish proteid food.—COBB.

Faradic electricity, especially when there is weakness of muscles at bladder neck. Medium-sized round anode over bladder region. Cathode within urethra. Such current as patient will bear for two to three minutes. One séance may cure.—KOESTER.

Raise the edge of the bed before retiring, diminish fluids, and give belladonna and strychnine internally.—HEUBNER.

Oil of mullein, gtt. xv., t.i.d.—LAWS.

Raise the pelvis during sleep to an angle of 130°–140° with the vertebral column.—STUMPF.

When of psychic origin, attach a weight of from 50 to 100 gm. to the wrist (*cordon antisomnambulique*), since it is practically a somnambulism of the bladder.—FIORANI.

Lycopodium is said to have a selective sedative action on the vesical mucous membrane. It may succeed when belladonna fails.

Tincture of lycopodium, gtt. xx. Give three times a day, gradually increased to a teaspoonful.

When micturition occurs upon waking or when waking is imminent, potassium bromide acts well.—COUTTS.

In girls and women systematic dilatation of the urethra.—SÄNGER.

Epilepsy.

If a paroxysm of epilepsy seizure is observed and the habitual confusion following the attack is noted, very little questioning or search for hereditary taint will be required to establish a working diagnosis. When a patient presents himself with a history of having fallen suddenly and an eye witness states that there were at first an agonizing cry, marked pallor of the face, convulsions, biting of the tongue, frothing at the mouth, possibly involuntary evacuations, and that stupor followed the attack, it is fair to go upon the assumption that the latter was epileptic in nature.

DIAGNOSIS.—It is claimed by Mairé and Vires that the urine before the attack is hypertoxic and that after the attack it is hypotoxic. The hypotoxicity remaining during the intervals is thought to constitute a permanent stigma in all forms of epilepsy. It has also been stated that preceding the attack an epileptic is gloomy, as contradistinguished from the hysteric, whose condition is described as expansive. A sense of precordial anxiety or oppressed feeling is usually described, and almost all epileptics have a peripheral aura of one kind or another.

A temporary drop in the bodily temperature of from 1° to 5° , lasting from a half to one hour, has been noted by Carlo Ceni.⁶⁸ It may occur four or five times in the twenty-four hours and return periodically.

Cranial irregularities and scars upon the scalp, malformations within the nose, astigmatism, or disease of the ear, are to be sought for as possible causes of a reflex epileptic seizure. True epilepsy developing after the thirty-fifth year of age is practically unknown, and either reflex irritation, cerebral disease, or a toxæmic cause is to be sought for.

It is well always to be suspicious of epilepsy developing in the adult, for in a majority of such cases the convulsions are due to a local lesion.—OSLER.

Stigmata of degeneration are morphologic, functional, or psychic. Asymmetrical facial and cranial development, irregular dental formation, retarded puberty, menstrual irregularities, digestive abnormalities, and mental deficiency are to be numbered among the signs.

Epileptic attacks are to be looked for during dentition, about the time of puberty, and after the sixtieth year of age.

Paroxysms may sometimes be established as of reflex origin by the discovery of retained milk teeth, the presence of intestinal worms, or adhesions of the prepuce.

Between the attacks the epileptic is irritable, shows loss of memory and other evidences of degeneration. Many epileptics are syphilitic and the history and signs of this disease must be sought for and the disease treated. It is not uncommon for a violent and dangerous mania to possess the subject immediately following the attack.

Genuine syphilitic epilepsy often assumes the form of Jacksonian epilepsy.—COLLINS.

DIFFERENTIATION.—Paroxysms due to disease of the nervous system usually have attacks beginning in one set of muscles, such as those of one limb, or on one side of the face, as in Jack-

sonian epilepsy; still it is well to remember that partial aphasia and monoplegias may succeed true epileptic seizures.

In alcoholic epilepsy the subject, while in the status epilepticus, obeys external influences at once and in a mechanical manner.

In hysteria the aura is lacking, and in the fall no injury occurs. The convulsion is tonic and the thumb is not flexed under the index.

Hysteria with epileptoid attacks is more difficult to distinguish, since certain subjects of idiopathic epilepsy have hysterical manifestations as a sequel of their attacks. Hysterics present a certain irregularity and aimlessness of movement in their convulsion, with more rigidity of a tetanic character than is seen in epilepsy and there is more emotional disturbance.

Partial epilepsy due to a tumor shows a marked increase of urea and phosphates in the urine during the attack. In hysterical epilepsy urea and phosphates are excreted in diminished amount during the attack.—GILLES DE LA TOURETTE.

	Epileptic Seizure.	Hysteroid Seizure.
Apparent cause.....	None	Emotion.
Warning.....	Any, but especially unilateral or epigastric auræ.	Palpitation, malaise, choking, bilateral foot auræ.
Onset	Always sudden.....	Often gradual.
Scream.....	At onset	During course.
Convulsion	Rigidity, followed by "jerking," rarely rigidity alone.	Rigidity or "struggling," throwing about of limbs or head, arching of back.
Biting.....	Tongue	Lips, hands, or other people and things.
Micturition.....	Frequent.....	Never.
Defecation	Occasional	Never.
Talking	Never.....	Frequent.
Duration	Few minutes.....	More than ten minutes, often much longer.
Restraint necessary....	To prevent accident.....	To control violence.
Termination.....	Spontaneous	Spontaneous or induced (water, etc.).

—GOWERS.

Epileptic convulsions which occur in general paralysis of the insane may be recognized by the accompanying mental disturb-

ances. Eclampsia is excluded by the absence of albuminuria, but the presence of the latter does not aid us, since nearly half the instances of epilepsy show albumin after the attack.—VOISIN.

PROGNOSIS.—(See epileptiform hysteria.) While the patient is constantly in danger of great injury from his sudden fall or from asphyxia, death may also take place by sudden stoppage of the heart beat or by heart rupture. The prognosis depends upon the intensity of the attack and the length of time the epileptic condition has existed. Epilepsy of early infancy may be recovered from and even in the adult spontaneous cure has occurred. Amelioration is frequent, especially under bromide-of-potassium treatment. It is said that while in this country only one per cent. of recoveries is noted, in Germany under the village system (which has recently been introduced here at the Craig settlement) five or six per cent. of recoveries takes place, while more than one-half of those admitted are decidedly improved.

This may be given to-day in the words of Hippocrates: "The prognosis in epilepsy is unfavorable when the disease is congenital, and when it endures to manhood, and when it occurs in a grown person without any previous cause. . . . The cure may be attempted in young persons, but not in old."—OSLER.

TREATMENT.—Salts of bromine constitute the drug treatment of epilepsy.

In incipient cases warn against the use of quack remedies, and in youthful subjects insist upon the parents' showing little sympathy.

I have never been able to satisfy myself that a mixture of the bromides possesses any particular advantage over the individual salts.—JOSEPH COLLINS.

The medical far outbalances the surgical treatment in results obtained. First of all exclude such causative factors as intestinal worms, onanism, alcoholism, etc.

In administering bromides, which in one form or another

constitute the most approved remedy, dilute well and give so that the greater quantity has been taken about three hours before the time of habitual attack. The quantity may be gradually increased for the first few weeks. In epilepsy, especially that associated with psychical disorders, duboisine sulphate, $\frac{1}{10}$ of a grain increased to $\frac{1}{8}$ of a grain, diminishes the number and intensity of attacks and gives most favorable results.—CIVIDALI AND GIANELLI.

Epilepsy from chloro-ancæmia :

℞ Protoxalate of iron..... 0.20
Magnesia..... 0.10

M. Two such powders daily just before eating.

℞ Acidi hydrochlorici 1
Aquæ destillatæ 120

M. S. Teaspoonful in a little water after meals.

—HAYEM.

To control the frequency of convulsions :

℞ Infus. adonis vernalis fol. (3 ss.-i. : 3 vi.)..... 3 vi.
Potassii bromidi..... 3 ij.-iij
Codeinæ..... gr. ij.-iij

M. S. One to two teaspoonfuls in water four times daily.

—DE BECHTEREW.

Or—

℞ Antipyrin 3 i.
Ammonii bromidi 3 iiss.
Strontii bromidi 3 i.
Liq. potassii arsenitis..... ℥ xl.
Ext. solani Carolinensis 3 xss.
Aquæ q.s. ad 3 vi.

M. S. A dessertspoonful or more twice daily.

Borax is not to be compared to the bromides in efficacy for most cases and in large dose has the disadvantages of producing abuminuria, dryness of the skin, and eczema-like eruptions with dryness and loss of hair. In giving borax begin with eight to fifteen grains, daily. If the attacks are not influenced by the time a daily dose of 120 grains has been reached, no benefit is to be obtained.—MAIRET.

Hypochlorization, or partial salt starvation, has been introduced by Toulouse to favor absorption of the bromides by the tissues. It is the greatest adjuvant to the bromide treatment.—L. PIERCE CLARK.⁶⁵

Senile epilepsy due to cerebral circulatory disturbances originating in heart or blood-vessel disease does not improve under the bromides but usually under small doses of digitalis.—NAUNYN.

Reflex epilepsy can often be completely cured or markedly benefited by the relief of eye strain. Epilepsy should not be treated with drugs until a very careful and intelligent search has been made for all reflex causes.—AMBROSE L. RANNEY.

To Prevent the Spasm.—If the attack is preceded by a warning an attempt may be made to ward off the fit by giving some sudden shock—placing the feet at once in hot water; giving inhalations of ammonia or nitrite of amyl; or shutting off the circulation for a time in one extremity. If the peripheral aura begins in an extremity a tight band quickly applied may prevent its culminating in an attack.

In irritable patients as well as in those who suffer from depression, when bromides alone do not give results add:

R̄ Opīi..... gr. xv.

Ft. pil. No. xxx. S. One three times daily and increase by one pill each day until a daily dose of 30 pills or 15 gr. is taken.

After this stop opium and give mixed bromides. Repeat at intervals of two or three months. Skilled nursing and careful attendance are essential.—FLECHSIG.

To abort an attack:

R̄ Nitroglycerin..... gr. $\frac{1}{10}$

Aquæ destil ℥ x.

M. S. Inject hypodermatically.

In putrefactive fermentations, intestinal antiseptics and laxatives.—J. ALLISON HODGES.

Nitroglycerin, gr. $\frac{1}{30}$, given at shorter intervals than the

bromides. When toleration becomes established it should be stopped for one or two weeks.—SPITZKA.

Nitroglycerin, gr. $\frac{1}{250}$, given eight times daily controls the restlessness and temper as well as the motor phenomena.—J. G. KIERNAN.

R Bromide of potassium.....	100 parts.
Tincture of calabar bean.....	85 "
Water.....	470 "

Give 3 iv. increased to 3 vi. and finally to 3 i. daily.

—POULET.

Bromide of potassium may be given in daily dose reaching as much as twenty grams.

Bromism may be prevented by:

R Potassii bromidi.....	3 ss.
Beta naphthol.....	ᵒi.
Sodii salicylatis.....	ᵒss.

for each dose, which is considered curative as well as preventive.—FÉRÉ.

The addition of arsenious acid, gr. $\frac{1}{40}$, tends to prevent eruptions.—KELLER.

Strontium bromide is less likely to produce acne, but it has less effect upon the convulsions.—WOOD.

Bromides have been abandoned as unnecessarily severe at the Buffalo State Hospital. Their good effect is merely temporary. Milk diet, exercise, immediate relief of symptoms of constipation and rest to the digestive organs constitute the approved method.—PERCY BRYANT.

In auto-intoxication the regulation of the diet, frequent drinking of hot water, occasional flushing of the large intestine, the use of intestinal antiseptics, are all indicated. Tincture of simulo, 3 ii.—3 iii. t.i.d., deserves trial.—FREDERICK PETERSON.

In petit mal, to transform into *grand mal* and improve mental and moral sphere, convulsives—picrotoxin, belladonna.—PIERRET.

As an adjuvant :

℞ Zinci oxidi	0.10 cgm.
Pulv. valerianæ	0.10 "
Pulv. belladonnæ	0.01 "
Sapon. medic.	q.s.

M. S. To make one pill. Take four daily.

℞ Ammonii bromidi.....	3 vi.
Antipyrin	3 i.
Liquor. potassii arsenitis.....	3 i
Aquæ menthæ piperitæ.....	3 vi.

M. S. 3 ss. in water night and morning.

—WOOD.

In status epilepticus, chloral hydrate, gr. xl.—lxxx., or more (per rectum), and venesection.—W. M. LESZYNSKY.

Caution.—While chloral is a powerful sedative upon the whole vascular system and especially upon the heart, it cannot but be productive of great harm in very large doses.

The following is used at the Craig Colony, after which few seizures are noted:

℞ Tinct. opii deodoratæ.....	℥v.
Potassii bromidi.....	gr. xxv.
Chloral hydrat.....	gr. xx.
Liquor morphinæ sulphatis (U. S.).....	3 i.

M. S. One dose; repeat in two hours if necessary.

—L. PIERCE CLARK.

When not contraindicated by cardiac weakness, to produce sleep, hyoscine hydrobromate, gr. $\frac{1}{100}$ — $\frac{1}{80}$.—TROWBRIDGE AND MAYBERRY.

℞ Potassii bromidi.....	3 ss.
Tinct. belladonnæ	3 iij.
Tinct. simulo.....	q.s. ad 3 iv.

M. S. 3 i. t.i.d. p.c. in water.

—PETERSON.

℞ Potassii bromidi,	
Sodii bromidi,	
Ammonii bromidi,	
Potassii iodidi,	
Potassii bicarbonatis	3 ij.
Tinct. digitalis.....	3 ij.—3 iv.
Liq. potassii arsenitis	3 ij.
Infus. calumbæ.....	q.s. ad 3 xij.

S. Half a tablespoonful after dinner, supper, and at bedtime.

—J. W. FOWLER.

A highly nutritive and sedative emulsion of bromine, bromipin”:

℞ Gum. acaciæ gran. ʒ vi.
 Olei sesami. ʒ viij.
 Syr. simplicis. ʒ ij.
 Aquæ ʒ vi.
 Ol. gaultheriæ. ℥ lx.
 M. fiat emulsio. Adde :
 Bromi puri. gr. dccccx.
 S. ʒ ss. night and morning, increasing as directed.

℞ Sodii bromidi,
 Potassii bromidi,
 Ammonii bromidi. āā 3 iij.
 Potassii iodidi,
 Ammonii iodidi. āā 3 iss.
 Ammonii carbonatis 3 i.
 Tinct. calumbæ. ʒ iss.
 Aquæ q.s. ad ʒ viij.
 Dissolve and mix. Dose, 3 iss. before meals, and 3 iij. at bedtime.

—BROWN-SÉQUARD.

℞ Strychninæ sulphatis. gr. i.
 Extr. ergotæ fld. ʒ iss.
 Liq. potassii arsenitis 3 ij.
 Sodii bromidi. ʒ iss.
 Tinct. digitalis 3 iij.
 Aquæ menthæ piperitæ. q.s. ad ʒ iv.
 M. S. 3 i. in a half-tumblerful of water before eating.

—HAMILTON.

When associated with irregular heart action :

℞ Zinci valerianatis. gr. iij.
 Extr. belladonnæ. gr. ʒ
 Pulv. digitalis. gr. ʒ
 M. S. For one pill. Take thrice daily.

—DA COSTA.

DIET.—Indigestion is often the starting-point of a paroxysm.

Epileptics should eat moderately, slowly, and only at regular intervals, avoiding indigestible articles and should see to it that the bowels act freely once a day.

Limit nitrogenous foods.

Most epileptics do best on a diet which is chiefly vegetable.

—MERSON.

The colony system embraces the features *par excellence* for the moral treatment of the epileptic:

Proper food, regular habits, exercise, etc., and withdrawal from baneful household influences.—SPRATLING.

Trephining and removal of diseased tissue give some good results, but seem more especially applicable to traumatisms received within a few months of the epileptic manifestations. If trauma has set up changes of an irritative nature which can be localized, the only treatment is to excise with all possible speed. Nothing is to be gained by subjecting other forms to operation. After apparent cure keep up moderate doses of bromides for two or three years.—COLLINS.

Epilepsy, Cardiac.

The form of functional heart disturbance in which the pulse becomes exceedingly slow, dropping to ten beats or less a minute, with pallor followed by lividity and perhaps subnormal temperature, is to be distinguished from bradycardia due to nervous disturbances, to cardiac disease, or to toxæmia. In the form in which the face is mottled, deep purple, or covered with ecchymotic spots, the heart beat being excited, the diagnosis is not difficult, because of the absence in epilepsy of these pronounced symptoms and the fact of loss of consciousness, while in cardiac epilepsy the convulsion is not severe. Bradycardia, like tachycardia, may show even on post-mortem examination no cause for the unusual heart action. It is, however, probable that there exist certain changes in the cardiac ganglia to account for the marked slowness of heart action. Respiration may be diminished and present a Cheyne-Stokes character.

DIFFERENTIATION is to be made from the effects of drugs, poisons, and such diseased states as are known to result in diminished heart beat.

PROGNOSIS is unfavorable for those instances associated with

actual disease of the heart, blood-vessels, or brain. Recovery may follow after the heart beat has fallen to four per minute.

TREATMENT.—In the presence of cardiac weakness the avoidance of all unusual efforts should be insisted upon. An important factor to be borne in mind is the condition of pseudo-death which may occur in essential bradycardia, from which the patient arouses after a time as the heart regains its activity, even when powerful drugs have been unavailing to restore its action or bring back signs of life.

R Tinct. strophanthi..... ʒ ss.
S. Two to ten minims every two to three hours.

Caution.—This is to be administered with great care.

When pneumogastric irritation causes slowness of the heart beat:

R Atropinæ sulphatis..... gr. $\frac{1}{12}$
 Aquæ..... q.s.
S. Inject subcutaneously, especially when dizziness and syncope are present.

—CARDARELLI.

Erysipelas.

Erysipelas, as a rule, presents little difficulty in diagnosis. Following a rigor or a distinct chilliness, headache, general malaise, coated tongue and constipation, an erythematous redness appears in the neighborhood of a wound, or upon the face near the *inner angle of the eyelid*, or upon the nose or cheek, which, within a few hours, or a day, extends at the periphery, and the horny epidermis begins to rise in bullous formations. Erysipelas of the throat or of internal location is, on the contrary, recognized with the greatest difficulty and usually can be surmised only by the history of exposure to infection or possibly by the subsequent development of external manifestations of the same process. Erysipelas of the newborn has its most frequent site of origin at or near the umbilical wound, or starts, as I have

seen it a number of times, from infection of a circumcision wound when this ritual procedure has been carried out among uncleanly surroundings or when the cut surface has not been properly protected. In young children any lesion of a delicate surface, and especially the lesions of varicella, furnish a favorable starting-point for the erysipelatous process. I have observed a number of cases originating in the pustules of ecthyma and in the lesions of vaccination.

Accompanying redness and infiltration of the skin, there are restlessness and disturbances of the digestion. The erythematous patch creeps with more or less rapidity, until the whole trunk, the limb, or the body becomes, little by little, invaded.

DIFFERENTIATION.—The presence of fever and other grave symptoms exclude erythema, eczema rubrum, and wandering œdema, which are the affections most likely to be mistaken for it. There is a condition following vaccination, spreading out over the arm and shoulder, attended with local heat, tenderness, and swelling, with limited extension into the surrounding parts, similar to that seen in erysipelas, which I have called pseudo-erysipelas.

It has seemed to me to be due to a mixed infection at the time of vaccination rather than to a subsequent infection of the wound. It is attended with fever and great restlessness.

PROGNOSIS.—An attack of uncomplicated erysipelas will terminate of itself usually within a fortnight. Relapses are, however, common, and some patients may have either yearly recurrences for several years at about the same season, or, in rare instances, an attack may come on at each menstrual epoch for a time.

Chronic nasal catarrh, fistulous openings, nasopharyngeal diseases, etc., seem to predispose to recurrences and repeated attacks.

In the newborn, erysipelas of the umbilical or other region

is almost always fatal unless the process can be hedged in and cut short by prompt and radical measures.

TREATMENT.—My chief reliance in the treatment of erysipelas at all stages and in all localities has been in ichthyol applied as an ointment of ten per cent, or stronger as a lotion, or, more especially, as an exclusive dressing made with flexible collodion and applied so as to cover the patch and an area of healthy skin beyond. In erysipelas of the nose or cheeks a fifty-per-cent aqueous solution of ichthyol is to be thoroughly applied to the mucous membrane of the nostrils, by means of a swab. This solution, recently recommended by Dr. Klotz, I have found to furnish an excellent means of applying ichthyol to the skin surface in this as in many other skin diseases.

I have also believed that good results have followed in children as well as in adults the application of a tight adhesive band about the extremity, the trunk, or the head. It is applied about an inch beyond the border of the patch with sufficient pressure to impede circulation in the superficial lymphatics of the skin. This naturally can be better carried out when there is a bony surface over which to make pressure. The Kraske method of criss-cross scarification has not, in my hands, given such results as would lead me to practise it in preference to the above method. It is, however, so highly spoken of by some that it may be given a trial. I prefer to make the incisions only in the sound skin and to cover them with a one to one-thousand solution of bichloride of mercury.

℞ Ammonii sulphoichthyolat..... 1
 Collodii flexil..... 2
 M. S. Paint on as required.

℞ Ichthyol,
 Vaseline..... 50
 M. S. Apply and cover with antiseptic gauze.

℞ Ichthyol,
 Water..... 50
 M. S. Paint on and let dry. Renew several times daily going beyond borders of patch.

R Creolin 1
Iodoform..... 4
Lanolin.....10
M.

—J. KOCH.

For internal use in adults :

R Quininæ sulphatis..... 3 ss.
Tinct. ferri chloridi 3 ij.
Aquæ destillatæ.....q.s. ad 3 ij.
M. S. Teaspoonful in water every two hours.

A paint much used at the City Hospital :

R Tinct. benzoini compositæ..... 3 ij.
Collodii flexil..... 3 i.
Glycerini 3 i.
M. S. For local use.

In erysipelas of the trunk region in which the inflammation is not deep seated and there is not much tension :

R Hydrargyri chloridi corrosivi..... 1
Aquæ destillatæ.... 5,000

M. S. To be applied by means of hot cloths to the wound and to raw surfaces.

This may be still further diluted and used where there is much tension and the surface has been denuded by bullous formation.

R Acidi phenici 0.50 cgm.
Alcohol gtt. xxv.
Spiritus terebinthinæ..... 15 gm.
Tinct. iodi gtt. xx.
Glycerini..... 15 gm.

M. S. For local application.

—ROTHER.

Burrow's liquid as employed by Billroth :

R Aluminis..... 5 gm.
Plumbi acetatis..... 25 "
Aquæ destillatæ..... 500 "

M. S. Applied locally.

Burrow's own formula:

R Plumbi acetatis cryst..... 100
Aquæ destillatæ..... 300
R Aluminis 66
Sodii sulphatis..... 12
Aquæ destillatæ 500

Mix the two lotions cold and let stand two days at a temperature of 10° C. Filter without washing the precipitate. This can be applied to extensive raw surfaces without danger of inducing lead poisoning.

In weak and anæmic states, or when there is depression:

℞ Tinct. ferri chloridi ʒ ij.

S. Fifteen minims poured into one or two gelatin capsules at time of taking, to be followed by a copious draught of water.

—E. F. SMITH.

Or, where capsules cannot be taken, ten to twenty minims in an excess of water or through a glass tube.

Streptococcus antitoxin serum, q.s. Inject 10 to 20 c.c., followed in twenty-four hours by a smaller dose.—MARMOREK.

Caution.—Unfavorable results and even death have been attributed to the serum.

℞ Gutta perchæ,

Chloroformi..... ʒ 25 gm.

Ichthyol..... 25 "

S. Paint on a thick layer extending beyond the margin of patch.

—JUHÉL-RÉNOY.

℞ Tannic acid,

Camphor..... ʒ 4 parts.

Spirit of ether..... 30 "

To be applied hourly for four or five times.

Or—

℞ Ether,

Camphor..... ʒ 100

M. S. Apply.

Or—

℞ Acidi carbolicæ..... 3 ss.

Tinct. iodi,

Alcoholis..... ʒ ʒ xxx.

Olei terebinthinæ 3 i.

Glycerini..... 3 iss.

M. The lesions are to be painted with this liniment every two hours and covered with aseptic tarlatan.

℞ Plumbi carbonatis,

Olei olivæ..... ʒ q.s.

To make a thick paint. S. Brush over inflamed parts every two or four hours.

—BARUCH.

℞ Ext. jaborandi fld ℥ i.
 Tinct. opii,
 Glycerini ℥ ℥ ℥ ss.
 M. S. Paint parts.

—CLAYBOUGH.

℞ Acidi salicylici..... 3 ij.
 Make twelve compressed tablets. S. Two three times in twenty-four hours.

Caution.—Not to be used when dyspnœa or cerebral manifestations and not to be too long continued.—HALLOPEAU.

As a tonic in all forms:

℞ Sol. quininæ sulphatis (gr. xv. in ℥ i.) ℥ ij.
 Tinct. ferri chloridi..... 3 iv.
 Spt. chloroformi 3 vi.
 Glycerini..... q.s. ad 3 iv.
 M. S. 3 i. every four to eight hours.

—CARPENTER.

℞ Potassii permanganatis..... gr. vi.
 Aquæ destillatæ ℥ vi.
 M. S. ℥ ss. t.i.d. (Keep in glass-stoppered bottle.)

—BARTHOLOW.

Give fluid extract of jaborandi, at first a dose sufficient to produce a pronounced sweat; subsequently every four hours sufficient to maintain gentle diaphoresis.—PACKARD.

Caution.—This should be given very cautiously or not at all to children.

For an infant one month old:

℞ Tinct. ferri chloridi..... 3 ss.
 Acidi acetici diluti..... 3 ss.
 Liquor ammonii acetatis..... 3 i.
 Syrupi 3 ss.
 Aquæ q.s. ad 3 iij.
 M. S. 3 i. every three hours.

—MEIGS AND PEPPER.

External applications:

℞ Acidi carbolicæ 3 i.
 Acidi oleici..... 3 i.-ij.
 M. S. Apply at frequent intervals around (not over) the erysipelas area.

—A. JACOB.

Caution.—Guard against carbolic poisoning. The first evidence is a pink stain on the napkin from urine, after exposure to the air for half an hour.

Oleum linum, plumbum album. Mix in proper proportion to make a thin paste to be spread over the patch.

In infants, especially that starting from the umbilical region :

R Hydrargyri bichloridi.....	0.05 cgm.
Calci sulphatis.....	10 gm.
Vaselini	40 gm.
M. S. For local use.	

—C. PAUL.

Erythromelalgia.

This condition, characterized by non-inflammatory pain and redness, usually limited to one extremity, showing hyperalgesia and increased local temperature, the symptoms increasing in hot weather, and when the limb hangs down, is presumably a manifestation of spinal or cerebral disease. It has been observed several times in hysterical subjects and has recently been considered by Pospeloff as a symptom of syringomyelia.

It is at times associated with Raynaud's disease, and in its absence the diagnosis may be confounded with the latter, especially in the second stage, when a local erythema develops. It occurs mostly in the feet, but also in the hands, while both may be affected simultaneously. It usually begins in the ball of the foot, heel, and great toe, extending to the great toe and dorsum.

DIFFERENTIATION is made by the mode of onset and the fact that erythromelalgia never goes on to gangrene.—COLLINS.

Myxœdema is simulated in some of the features of particular cases, but the fact that as soon as the horizontal position is re-assumed the objective symptoms disappear wholly or in part distinguishes the condition. It is scarcely, however, to be confounded with any other painful condition.

For further differentiation, see "Symmetrical Gangrene." The two affections may at times be associated.

PROGNOSIS.—Mild cases may recover under favorable conditions, severe ones under treatment, while others go from bad to worse.

TREATMENT.—A section of nerve has been excised with some benefit (musculo-cutaneous, ulnar). Massage has been recommended. Improvement may follow rest, cold applications, general tonic treatment. Phenacetin to relieve pain.

Warm or cold baths, electricity, and antipyrin.—STRÜMPPELL

Fever, Blackwater.

This hæmoglobinuric state was formerly believed to be nothing more nor less than a manifestation of quinine poisoning occurring in inter-tropical Africa. It is now occasionally found in the Antilles, Central and South America, China, India, and Southern Europe. It bears a close analogy to the hæmoglobinuric or *redwater* fever of cattle, which is supposed to be due to the *piroplasma bigeminum* and is now generally regarded as a disease *sui generis*. Quinine, even in small doses, seems capable of determining relapses in blackwater fever, probably because lesions due to chronic malaria exist, which condition renders the subject more susceptible to the drug's action.

DIAGNOSIS.—The chief physical signs are blackish, bloody urine, yellowish coloring matter permeating all tissues, and melanin in the blood plasma or within the corpuscles. Europeans in Central Africa rarely acquire the disease until after at least a year's residence. Natives appear exempt. Quinine seems to have no beneficial influence.

TREATMENT.—Rest in bed, warmth, milk diet, calomel followed by sulphate of magnesia, ten drops of turpentine every three hours.

After the urine clears :

℞ Quininæ bisulph..... gr. xxiv.
 Ac. sulph. dil..... gtt. ij.
 Liq. arsenicalis..... gtt. ij.
 Potass. chlorat..... gr. ij.
 Tinct. ferri chl..... gtt. iv.
 Aquæ.....ad $\frac{3}{4}$ xij.
 M. S. Tablespoonful in water after food three times a day.

—CROSS."

Fever, Ephemeral.

Febricula, or simple continued fever, occurring especially in children and lasting from one to twelve days, sometimes terminating at the end of twenty-four hours, is distinguished by an absence of lesion or source of irritation which can be determined.

A febrile paroxysm lasting for twenty-four hours and disappearing completely is spoken of as ephemeral fever. If it persists for three, four, or more days without local affection, it is referred to as febricula.—OSLER.

DIAGNOSIS is chiefly by exclusion. There is an elevation of temperature with rapid rise, which continues for an indefinite time and subsides with the occurrence of free perspiration. On the supposition that auto-intoxication or undiscoverable source of irritation exists, it has been at times called irritative fever and, when functional digestive derangement has been thought to be the cause, gastric fever. Some instances have been attributed to dentition. There is frequency of pulse, restlessness, lassitude, lack of appetite, headache, and a moderate degree of fever.

DIFFERENTIATION.—Catarrhal fever in children has a higher range of temperature, is epidemic in character, and of longer duration. Yellow fever in children in the tropics is to be diagnosed with difficulty from simple continued fevers.

PROGNOSIS is always good for speedy recovery, often by the fourth day.

TREATMENT.—A basic formula for all febrile conditions:

℞ Spiritus ætheris 3 ss.
 Potassii acetatis..... 3 ij.
 Spiritus Mindereri,
 Aquæ camphoræāā 3 ij.
 Syr. simplicis..... 3 ij.
 M. S. For adults, a tablespoonful, for children a teaspoonful every two hours.

Tincture of ferric chloride may be added in scarlatina, diphtheria, and erysipelas. The reaction of spirits of Mindererus should always be slightly acid in order to make a beautiful mixture when iron is added.—J. A. LARRABEE.

The following powder, called by me "The Compound Antipyretic Powder," furnishes a safe and reliable means of reducing temperature in fever without inducing collapse.

℞ Antifebrin gr. ½
 Antipyrin,
 Phenacetināā gr. ij.
 M. S. To be given hourly until the temperature is reduced.
 —L. WEBER.

For a child, when no etiological factor is discoverable:

℞ Tinct. aconiti..... gtt. v.
 Potassii bromidi 3 ss.
 Spt. ætheris nitrosi 3 ij.
 Mist. potassii citratis 3 ij.
 M. S. Teaspoonful every three hours.

Or—

℞ Tinct. aconiti..... ℥ ⅙
 Tinct. belladonnæ ℥ ⅙
 Tinct. bryoniæ ℥ ⅙
 Chocolate.....q.s. for one tablet
 M. One every half-hour for six doses ; and then one every two to three hours, as necessary.

℞ Phenacetin,
 Salolāā gr. i.

For a dose. Repeat frequently until an effect is manifested.
 —J. M. DA COSTA.

When headache is troublesome and for a general sedative influence upon the nervous system, phenacetin in frequent

small doses is the safest and most pleasant modern antipyretic.
—C. BIRNIE.

Fever, Exanthematic.

In no class of cases is the professional man less likely to be excused for erroneous diagnosis than in the exanthemata, and still there are difficulties arising in the differentiation of measles from scarlet fever, German measles, and various skin affections, which at times most closely simulate it, and which tax the diagnostic skill of the physician to the utmost. After an eruption is once fully established, the nurse, the mother, and especially the grandmother, feel no need of the physician's opinion. It is, however, in the very onset or in the prodromal days, when the child may be "sleeping for the measles," or may be "breeding" one of the other eruptive diseases, that the physician is expected to predict what course the disease is to take.

There are certain signs and indications, which, taken collectively or even singly, may aid us in early diagnosis and which will surely help us in differentiating the affections from one another. There are, however, certain erythemata giving morbilliform appearances which are being constantly added to by the introduction of new remedies. Thus, no sooner have we differentiated the roseola-like eruption due to iodoform than we find much the same produced by antipyrin. And scarcely have we differentiated the measles-like erythema due to some bacillary affection, like diphtheria, than a new series of observations are made upon quite similar eruptions, the result of antitoxin injections. There is one point in differentiation between these processes, and that is the fine dotted specks upon the hard palate present in measles and absent in the erythemas, and, as Dr. Koplik has recently pointed out, fine pearly points upon the buccal surface of the lips and between the lines of the gums are characteristic in the early stages before the eruption comes out. All of the exanthemata may have prodromal rashes of scarlatinal form, rubeola form, or erysipelatous appearance.

In measles it may occasionally resemble miliaria rubra with minute vesicles surrounded by a pink areola.

According to Robet, the erythema appears about the second day of invasion.

The following tabulated statement was presented in a recent lecture by Professor Rotch, of Boston:

	Variola.	Varicella.	Measles.	Rubella.	Scarlet Fever.
Incubation ...	12 days.	17 days.	10 days.	21 days.	4 days.
Prodromata...	3 days.	A few hours	3 days.	A few hours	2 days.
Efflorescence .	Macules. Papules. Vesicles. Pustules.	Vesicles.	Papules.	Papules.	Erythema
Desquamation	Large crusts.	Small crusts	Furfuraceous.	.....	Lamellar.
Complications	Larynx.	{	Ear.	.....	Kidney.
and sequelæ.	Lungs.	{	Lung.	.....	Ear.
		{	Tuberculosis.	.....	Heart.

For further differentiation between these eruptive fevers and for treatment, see under the various headings.

Fever, Glandular.

This acute infectious disease, confined almost wholly to children, was first described as *Drüsenfieber* by Pfeiffer in 1889. A preferable designation would seem to me to be *lymph-node fever*.

The cause has not been definitely determined, but would seem to be an auto-intoxication from the intestinal canal.

I am indebted to Dr. J. P. West, of Bellaire, Ohio, who has observed the affection most extensively in this country, for the following description.

DIAGNOSIS.—The disease usually begins suddenly, although there may have been an ill-defined malaise for from one to three days. With the onset there is headache, muscular soreness, marked prostration, high temperature, and often nausea.

In from twelve to thirty-six hours after the beginning of well-defined symptoms there will be seen an elongated smooth swelling on one side of the neck near the sterno-mastoid muscle. Palpation will show this to consist of a chain of swollen lymph nodes. Twenty-four to forty-eight hours later the same will be noticed on the other side. The enlargement of the nodes increases slowly for from four to seven days, remains stationary for a brief space, when it begins to subside and disappears entirely in from two to three weeks. The swelling usually begins on the left side (probably owing to the proximity to the thoracic duct), is usually larger on the side first affected, may be confined to one side, and does not begin on the two sides at the same time. The nodes are painful and tender, and the head is held in a constrained position. Enlargement to a slighter extent is commonly felt in the postcervical, axillary, inguinal, and mesenteric lymph nodes, and symptoms point to the involvement of the retropharyngeal, retrotracheal, and bronchial nodes. In the majority of cases the liver and spleen are also enlarged. The temperature remains continuously high; the tongue is coated; there is depression, anorexia, pain in the abdomen, and constipation. The skin is dusky, but shows no eruption. There is some redness of the fauces in the minority of cases and rarely a severe angina. No other local process. After from four to seven days there is a diarrhoea with discharges of greenish mucus, fall of temperature, and general improvement. Marked anæmia and weakness continue for a number of days.

Milder cases, lasting for a shorter time, are usually accompanied by diarrhoea.

Williams believes that the poison enters by way of the pharynx or tonsil, but aside from a slight redness the throat presents no signs.

DIFFERENTIATION.—Parotitis of irregular form is excluded by absence of salivary-gland involvement and swelling of spleen

and liver, which never occurs in mumps; from scarlet fever and rōtheln by lack of eruption.

PROGNOSIS.—The affection is usually mild, the glands resuming their normal size after a fortnight. Pronounced anæmia and weakness may persist for a variable time in some cases. Hemorrhagic nephritis is a possible complication.

TREATMENT.—For the severe pains in the neck apply compressed lint spread with extract of belladonna and glycerin.

Or, lint soaked in laudanum, one part, and water, four parts.

℞ Salicin 3 ss–3 i.
Ft. cht. No. xii. S. One every four hours.

—CHAS. W. CHAPMAN.

Small doses of calomel at the outset. To relieve the pain and general malaise, salophen. During convalescence, iron, and for local use belladonna ointment made with lanolin.—A. E. ROUSSEL.

For the obstinate constipation often present, calomel, gr. $\frac{1}{4}$ – $\frac{1}{2}$, in tablet triturate, twice or more times daily, followed by a saline.

For the succeeding weakness and anæmia :

℞ Ferri peptonati (Merck) gr. xlv.
Elixir calisayæ 3 ij.
M. S. 3 i. after each meal.

For the hacking cough which may persist :

℞ Ext. hyoscyami 0.04
Sacchari albi 2
For eight powders. S. One twice daily.

Fever, Hay.

The onset is attended with paroxysms of sneezing, irritation of the Schneiderian membrane, smarting about the inner canthus of each eye, somewhat similar to that of a beginning coryza, and, after a period varying from a few hours to a day or two, coryza actually begins. There is a history of the affec-

tion recurring each year at the same period. There is more of a pricking sensation and irritation about the mucous membrane of the nose than in ordinary catarrhal affections. If bronchitis develops it usually is attended with a greater amount of dyspnoea and with it attacks simulating asthma. Soreness of the throat, pain in the eyeballs, lachrymation, and neuralgic pains over the brows are not infrequently accompaniments. The picture as a whole is not to be mistaken for other conditions.

TREATMENT.—Change of residence, if possible, before the known date of annual recurrence, is the only positive prophylaxis or cure. Before the usual date of attack direct treatment to the predisposing condition, whether this be rheumatic, gouty, gastro-intestinal, nasal, or neurotic.

To ward off the attack :

℞ Brucinæ phosphatis..... gr. iiij.
 Ext. hyoscyami gr. xv.
 Quininæ valerianatis 3 i.
 Camphoræ..... gr. xxx.
 M. ft. capsulæ No. xxx. S. One capsule four times a day.

This combination is not only advantageous in delaying or preventing an attack, but it seems to be of much value in mitigating the patient's suffering during its progress.—E. FLETCHER INGALS.

Make sure that the nasal passages are free from irritating obstruction. After a course of Carlsbad salts and spraying the nostrils with Carlsbad water, douche the mucous membrane with a strong solution of nitrate of silver and, as an after-treatment, apply :

℞ Mentholi..... 3 gm.
 Resorcini 3 "
 Spt. vini diluti 14 "
 M. —MÜLLER.

(I.) Control neurotic habit.

℞ Zinci phosphidi..... gr. viij
 Ext. belladonnæ..... gr. x.

M. div. in pil. No. xl. S. One pill t.i.d.

Commence about three or four weeks before hay-fever period and continue until it ends :

℞ Zinci phosphidi gr. viij.
 Acidi arsenosi..... gr. i.
 M. div. in pil. No. xl. One pill t.i.d.

(II.) Correct any deviation of nasal septum, hypertrophic rhinitis, or remove polypi.

(III.) Atomized solution of cocaine for the acute exacerbation.—LEFFERTS.

Tablets containing five grains of desiccated adrenals four times a day.

℞ Liq. potassii arsenitis,
 Extr. nucis vomicæ fl.,
 Extr. cinchonæ fl. (detannated).....āā 3 vi.
 Alcoholis..... 3 iij.
 Syr. aurantiiq.s. ad 3 xvi.
 M. S. One to two teaspoonfuls, taken three times daily, with or after meals.

—HALL.

Cycling has been said to mitigate greatly the symptoms of hay fever by relieving the eye irritation and keeping off the paroxysms of sneezing.

In the asthmatic stage, terpin hydrate, gr. xv.—xx.—H. J. LOEBINGER.

In a lithæmic subject, forbid strawberries, tomatoes, and an excess of white potatoes, and give phosphate of sodium.—H. A. ARNOLD.

It is said that fifteen-grain doses of salicylic acid may ward off an attack. It is also said that equal parts of laudanum and spirits of camphor painted over the nasal mucous membrane are of benefit.

At the onset, acid phosphate, 3 i.—3 ii., in a glass of water at bedtime and on awakening in the morning, then a three-days' course of salicylate of sodium.

℞ Zinci valerianatis..... gr. i.
 Pil. asafœtidæ co gr. ij.
 M. ft. pil. No. 1. S. Two or three times a day.

—McKENZIE.

In very obstinate cases give :

℞ Morphinæ..... gr. $\frac{1}{2}$
 Atropinæ..... gr. $\frac{1}{100}$
 Repeat in one or two hours if hydrorrhœa and sneezing are not relieved.
 —BISHOP.

℞ Mentholis..... gr. xx.
 Olei amygdalæ dulcis..... 3 ij.
 Acidi carbolic..... ℥x.
 Cocainæ hydrochloratis gr. vi.
 Ung. zinci oxidi..... 3 ss.
 S. Apply thoroughly to the nostrils on cotton attached to a toothpick.
 —FREDERICK G. SMITH.

℞ Adrenals (desiccated) 3 i.
 Acidi borici..... gr. xvi.
 Aquæ cinnamomi..... 3 iv.
 Aquæ camphoræ (hot)..... 3 i.
 Aquæ destil. (hot)..... q.s. ad 3 ij.
 M. Macerate for four hours, then filter. S. Use as a spray in the nares.

Application of adrenalin chloride in normal salt solution
 1-1,000.

℞ Suprarenal extract gr. xx.
 Acid. carbolic..... gr. ij.
 Eucaine B gr. v.
 Aquæ destill 3 ij.
 M. Macerate for ten minutes and filter. S. Use by means of applicator.
 —SUMMERS.

℞ Cocaine,
 Menthol āā 0.5
 Boric acid,
 Powdered acacia..... āā 5
 S. Use as a snuff.

℞ Camphor gr. x.
 Boric acid 3 i.
 S. Use as a snuff.

Orthoform by insufflation.—LITCHWITZ.

First, I cleansed the nasal mucous membrane with an alkaline solution. I then applied to the sensitive areas, by means of cotton pledgets, an eight-per-cent cocaine-phenate solution, keeping this in contact with the parts for at least ten minutes, followed by a spray of a solution of the same strength. The result was diminution of the hyperæsthesia, lessened congestion,

and relief of the constant coryza and sneezing that are so annoying in these cases. The treatment failed to benefit the cases in which there was marked hypertrophy. I then removed the thickened membrane, and the result was a partial relief. In cases characterized by reflex asthmatic symptoms an eight-per-cent spray of cocaine was used with most marked effect.—KYLE

R Chloroformi,
Acidi carbolici,
Camphoræ..... $\bar{a}\bar{a}$ seq. part.
M. S. Inhale.

—FAIRMAN.

R Tinct. aconiti radicis..... 3 iss.
Glycerini..... 3 iiss.
M. S. Apply to the nose.

—RINGER.

R Camphoræ..... 3 v.
Ether. sulphurici..... q.s.
Dissolve to the consistence of cream, and add:
Ammonii carbonatis..... 3 iv.
Pulv. opii..... 3 i.
M. S. Apply. Keep tightly corked.

—GEORGE M. BEARD.

R Quininæ sulphatis gr. vi.
Aque camphoræ..... $\bar{3}$ vi.
Sodii chloridi..... 3 ss.
Aque..... $\bar{3}$ iv.
M. S. Use in an atomizer or snuff from the hand.

—R. P. LINCOLN.

R Belladonnæ fol..... gr. ix.
Hyoscyami fol.,
Stramonii fol..... $\bar{a}\bar{a}$ gr. ivss.
Pellandrii aquatici fol gr. iss.
Opii gr. $\frac{1}{2}$

Make two cigarettes by rolling in paper. Only two to be used during an attack.

—MORRILL WYMAN.

R Chloralis,
Pulv. camphoræ $\bar{a}\bar{a}$ gr. xvi.
Acidi carbolici..... \mathcal{O} i.
Morphinæ gr. xij.
Acidi oleici gr. vij.
Olei ricini 3 vij.

M Rub well together to make a lotion. Apply by means of a little ivory or hard-wood plug to the interior of the nostril.

—HORACE DOBELL.

R Hydrarg. chloridi corrosivi gr. $\frac{1}{2}$
 Quininæ hydrochloratis. 3 i.
 Acidi carbolici gtt. xx.
 Glycerini. ad $\frac{3}{4}$ i.

M. S. Apply by means of camel's-hair brush.

—SIR ANDREW CLARK.

R Potassii iodidi $\frac{3}{4}$ i.
 Liq. potassii arsenitis. 3 i.
 Aquæ $\frac{3}{4}$ iv.

M. S. Teaspoonful every four or six hours.

R Tinct. iodi. 3 i.
 Acidi carbolici gtt. x.
 Aquæ destillatæ. $\frac{3}{4}$ iv.

M. S. Apply locally with a postnasal syringe.

—ROBERTS BARTHOLOW.

For the hydrorrhœa, cinchonidine, gr. xx., daily.

R Sodii bisulphatis. 1 part.
 Aquæ destillatæ 500 parts.

M. To be used as a lotion for nasal passages.

For itching of the conjunctiva :

R Sodii biborat gr. viij.
 Aquæ camphoræ $\frac{3}{4}$ i.

M. S. Use as lotion and drop into the eyes every three hours.

For inhalation :

R Menthol gr. viij.
 Chloroform ℥ v.
 Benzol. ℥ xx.
 Oil of cassia ℥ iij.
 Light carb. of magnes. gr. xx.
 Water ad $\frac{3}{4}$ i.

M. S. A teaspoonful is poured into a pint of hot water at a temperature of 40° F., and the vapor is slowly inhaled for ten minutes.

—WM. MURRELL.

Cauterize hyperæsthetic areas.—ROE.

Fever, Hectic.

This is a form of febrile manifestation present in several conditions, attended with more or less prolonged suppuration.

DIAGNOSIS.—The intermissions, which are usually periodic in character, are rather distinctive, remission and exacerbation oc-

curring daily, sometimes twice in twenty-four hours. More or less profuse sweating makes a part of each paroxysm. If it has been at all prolonged, loss of weight is an important diagnostic feature. It is the usual accompaniment of advanced phthisis.

A typical hectic fever means a pyogenic intoxication.

TREATMENT.—From a physiological and therapeutical standpoint the drugs most immediately indicated are strychnine and atropine.

When hyperpyrexia is insignificant, but the chill, sweat, and prostration are the prominent features :

R Strychninæ sulphatis..... gr. $\frac{1}{2}$
 Atropinæ sulphatis..... gr. $\frac{1}{16}$
 Extr. gentian..... q.s.
 M. et ft. pilulas No. xii. S. One t.i.d.

When all the symptoms are present :

R Strychninæ sulphatis..... gr. $\frac{1}{2}$
 Atropinæ sulphatis..... gr. $\frac{1}{16}$
 Antifebrin..... 3 i.
 M. et ft. capsulas No. xii. aut oblat. S. One t.i.d. or p.r.n.

When the sweating-stage is absent, but the temperature and prostration predominate :

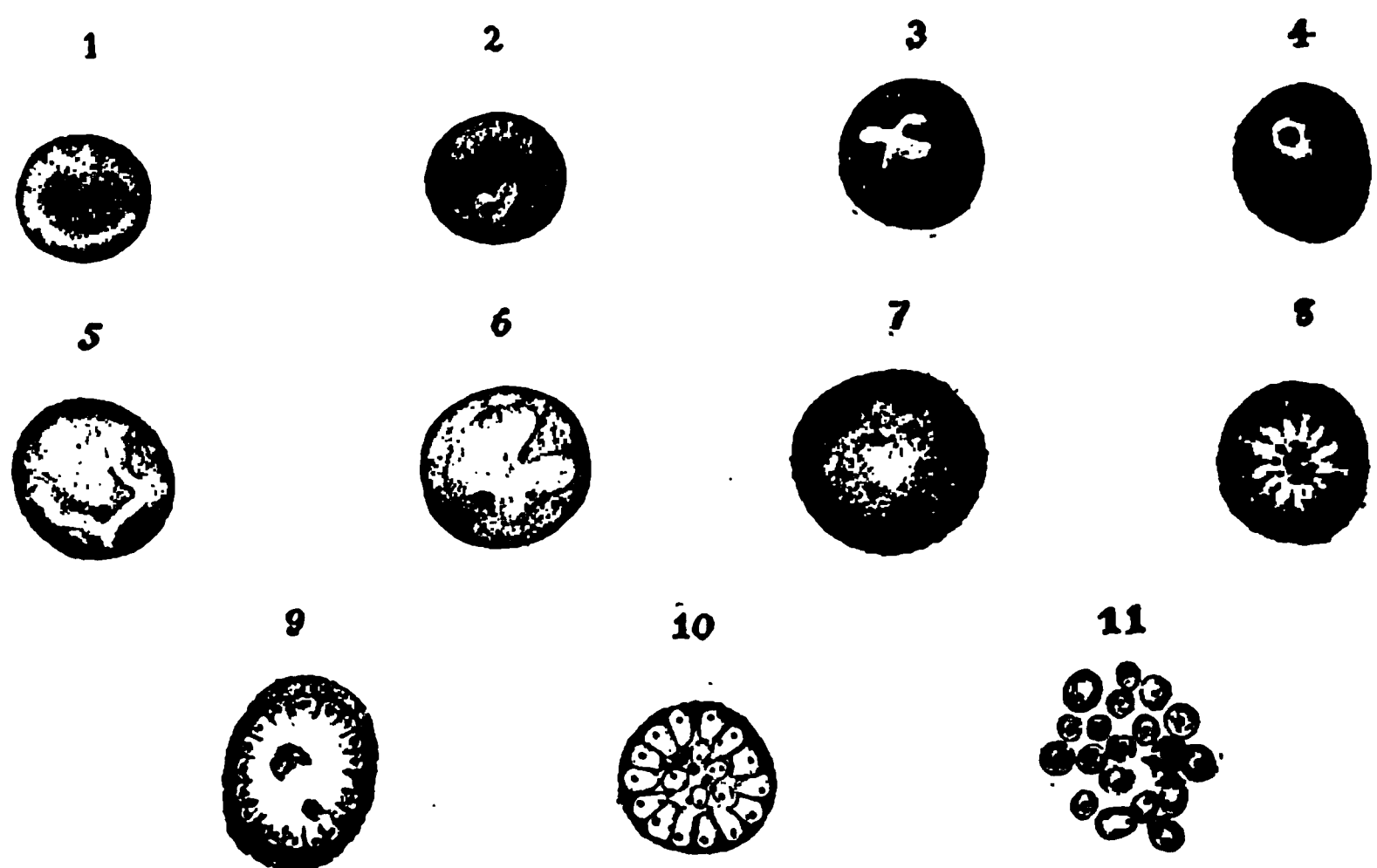
R Strychninæ sulphatis..... gr. $\frac{1}{2}$
 Phenacetin..... 3 ij.
 Caffeinæ citratis gr. xxiv.
 M. et ft. oblat. No. xi. S. One wafer t.i.d. aut p.r.n.

—H. S. STARK.

Fever, Malarial.

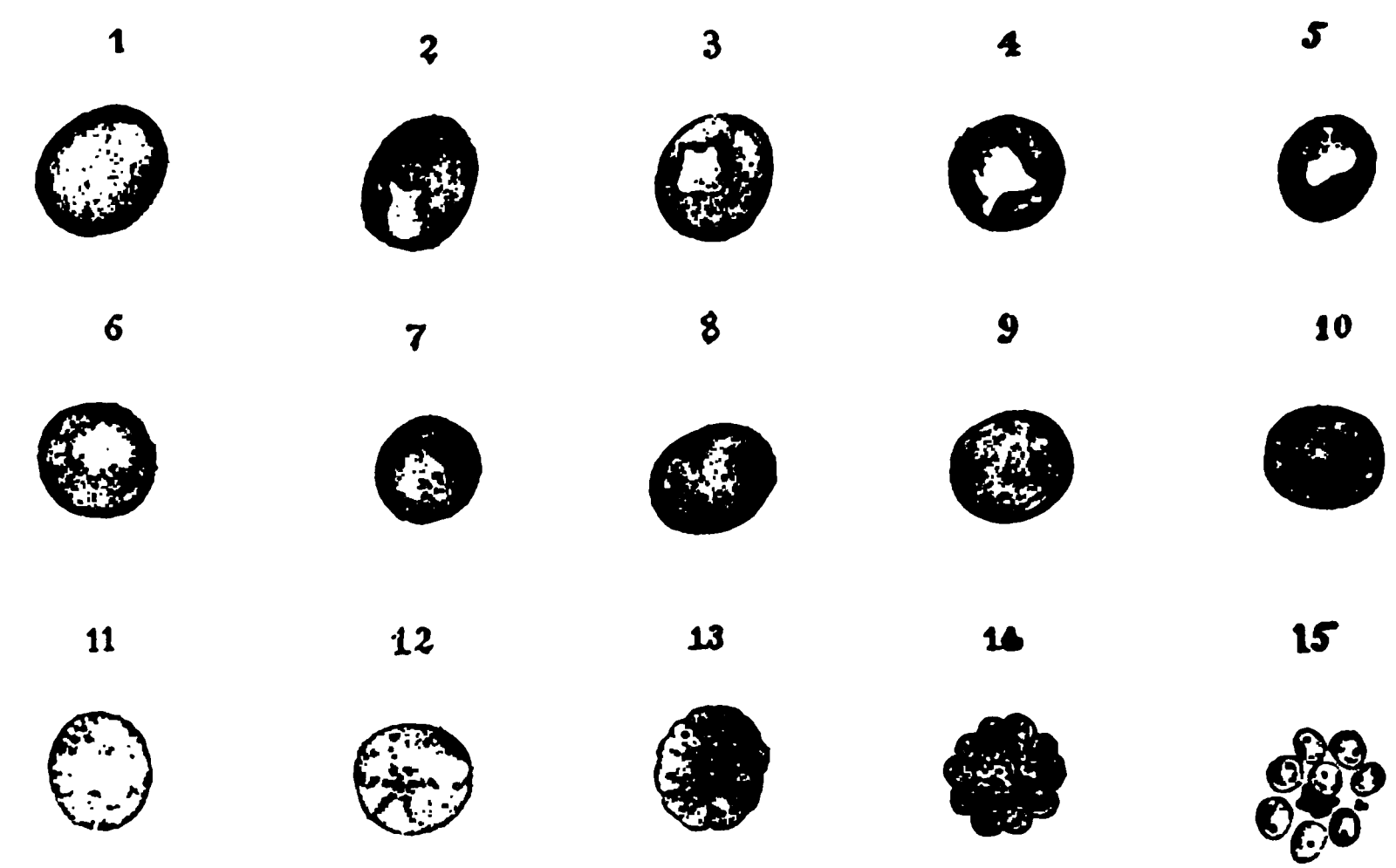
Malarial fevers when they present their characteristic regularity of recurrence, conforming to one of the well-known types, occasion little difficulty in diagnosis. This is especially true if the location is one known to be in a decidedly malarial district. When, however, symptoms of chill and fever present an irregular intermittent course, neither coming up on each day, as in quotidian, nor every other day, as in tertian, nor presenting any

PLATE I.



The Parasite of Tertian Fever.

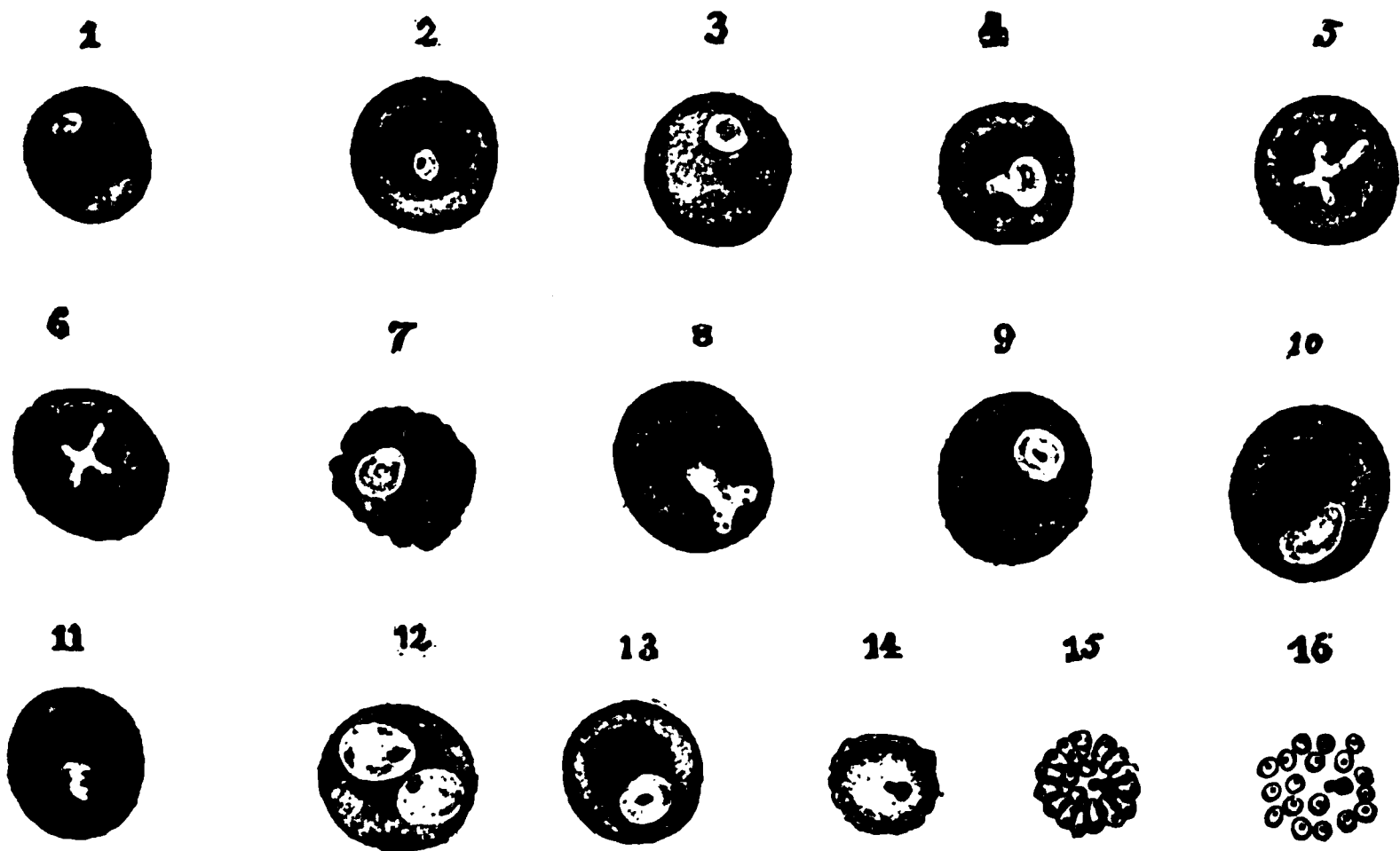
PLATE II.



The Parasite of Quartan Fever, representing the segmentation following the various phases of development.

Reproduced by permission from Reports, Johns Hopkins Hospital.

PLATE III.



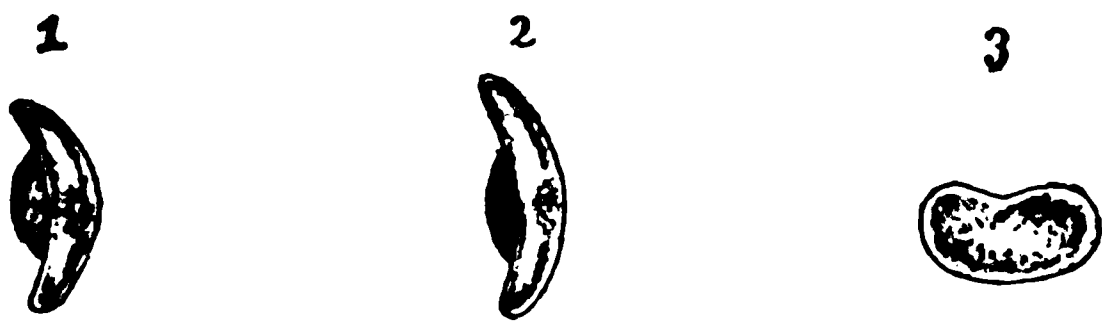
Appearances in *Æstivo-Autumnal* Fever, showing various forms of intracorporeal organisms.

PLATE IV.



Flagellate Organisms.

PLATE V.



Figs. 1 and 2. —Crescent Forms. Fig. 3. —An Ovoid Body.

Reproduced by permission from *Reports*, Johns Hopkins Hospital.

other regularity of interval, doubt may arise. It is to be remembered, however, that well-recognized double tertian presents paroxysms in different portions of each day, but here the hours upon alternate days correspond with each other. In a general way, it may be said that the nearer the paroxysms are to each other the longer is the duration of the fever. After the first week the patient shows signs of anæmia.

THE DIAGNOSIS may be confirmed in one of two ways: either by an examination of the blood, which will disclose the malarial parasite or plasmodium, or by the less positive therapeutic test of administering quinine. The distinct onset, as in adults, *with chills*, is never observed in infants under two years of age. Physicians practising in malarial districts frequently see chills in infants, which is contrary to our experience.—PROBEN.

A convulsion may take the place of a chill in infants, and if repeated for several days with a distinct periodicity a clew to our diagnosis may be thus given.—PROBEN.

The parasites are present in all forms of the disease, and constitute a *diagnostic criterion* of unfailing accuracy in *uncin-chonized subjects*. The diagnosis of the malarial fevers can be made with certainty by the blood examination. An intermittent fever which resists quinine is not of malarial origin.

There are three well-known varieties: 1. The tertian organism, which matures in forty-eight hours and produces quotidian paroxysms if two crops are present, tertian if only one. This is the parasite of common, simple, intermittent malarial fever of the spring and autumn. 2. The quartan parasite, which has a cycle of development of seventy-two hours, and if only one crop is present gives the regular quartan intermittent; if two or more crops are present, the paroxysms might occur every day or every other day. The quartan type is rare north of the Chesapeake Bay. 3. The parasite of irregular malarial fever—the remittent, continuous, and pernicious types. This variety of organism is smaller, less readily recognized, not so abundant

in the peripheral circulation, and in pernicious forms might select curious sites, as the brain or mucosa of the intestines. It is further characterized by the development of crescents—a fact of greatest moment in diagnosis.—OSLER.

MICROSCOPIC DIAGNOSIS OF THE THREE SPECIES OF PARASITES.

Tertian.	Quartan.	Æstivo-autumnal.
<p>Large size. Pale, but pigment very active. 12–30 segments. Abundant flagella. Spores, largely in spleen and marrow.</p> <p>Active amœboid motion. Red discs large and pale.</p>	<p>Smaller size. Pigment coarser, abundant. 6–12 segments. Spores in blood everywhere.</p> <p>Less active. Small and pigmented.</p>	<p>Smallest size. Less pigment.</p> <p>Generations overlap. Often ring shaped. Spores in spleen and marrow. Form crescents. Less active. Shrivelled and “brassy.”</p>

—WM. L. THOMPSON.

DIFFERENTIATION.—In malaria the fever is intermittent from the start; not so in other fevers.

In hectic fever of phthisis with its succeeding sweats there is a close resemblance to intermittent fever in which the chill has been overlooked or possibly omitted. Suitable tests upon either side of the question will dispel doubt.

Septicæmia and pyæmia or suppuration may all be ushered in with chill, fever, and sweat, and for a brief period lead into error.

Likewise hepatic disease and gall stones may present symptoms which might be referred to a malarial origin. In chill and fever following the use of instruments in the urethra we have this history to point to the origin, while in so-called nervous chill there is less elevation of temperature.

To examine for the plasmodium a small drop of blood, freshly drawn by pricking the lobule of the ear and placed upon a thoroughly clean slide and covered with an equally clean cover glass, is examined at once by the aid of an oil-immersion lens. The protozoon in its various stages of development and varying forms dispels the doubt which may have surrounded any obscure

case. Fix the specimen by placing in equal parts of absolute alcohol and ether for at least two to three hours.

As a staining-fluid:

R Methyl blue (concent. sol.)	1 part
Alc. sol. eosin (one per cent).....	2 parts

The hæmoglobin of the red corpuscle is stained red, the eosinophile cells a deep strawberry red, and the ordinary leucocytes and malarial parasites blue.—KILROY.

The autumnal fevers of the Southern Atlantic States, recently studied by Bedford Brown and others, have often been confounded with typhoid. This fever prevails annually from July until October, or until the temperature falls to 32°. The prolonged form differs widely from the acute by having a much more gradual rise of temperature, and when the adynamic stage is reached it may mark as high as 106°. There is also a premonitory stage in which the general health and mental activity decline.

An Easy Method.—The straight edge of a half-inch strip of note paper is to be drawn through the drop of blood. The edge is then quickly drawn across the clean cover glass held at nearly right angles, before the blood has had time to dry. Mount dry by gumming to the slide with strips of thin paper.—MACLEOD.

Crescents are found only in the æstivo-autumnal forms.—EDWARDS.

There are also neuralgic pains in the limbs, back, and head, often mistaken for muscular rheumatism. The temperature curve in some cases of prolonged malarial fever resembles so closely that of typhoid that other signs have to be relied upon.

The importance of microscopic examination is well illustrated by Dr. W. W. Russell, in speaking of this mode of differentiation from surgical fevers. An instance is related of a patient who presented herself to the surgeon, complaining of pain in the lower abdomen with chills and fever. Examination revealed a mild pelvic peritonitis, for which the tubes and ovaries were at

once removed. The patient, however, continued to have her chills and fever; the latter reaching 107° and being attended with collapse. The blood was now examined, as it should have been before operation, and the plasmodium was found in abundance. Quinine would have cured the symptoms and preserved the adnexa. For one reason or another the parasite is not to be found in every instance of supposed malaria and enlargement of the spleen, and other symptoms will have to serve as the basis of diagnosis.

In children the remittent type is that usually mistaken for typhoid, but it is the tertian, according to J. Lewis Smith, which usually predominates after the eighteenth month of life. The chill is usually absent, but it may be replaced by a convulsion. If this is repeated several times with a distinct periodicity, it points rather strongly to a malarial origin. Splenic enlargement, which is rather frequent in infancy, is more often due to other causes than to malaria. These include rachitis and syphilis.

Before making the diagnosis of surgical fever after operation, be sure that malaria is excluded by an examination of the blood.
—W. W. RUSSELL.

From septicæmia, by the period of fever extending over about twelve hours in malaria, while in septic conditions it varies from six to twenty. Further points are the absence of hæmatozoa, resistance to quinine, and presence of leucocytosis. Malaria post partum is very often septicæmia, and I rarely see a case of abscess of the liver which has not been drenched with quinine.—OSLER.

In typhoid the onset is much slower than in remittent, there is much more malaise, chills are not so frequent, and the fever goes up by irregularly progressive steps, not reaching the high point seen in malarial fever by the second or third day (perhaps 106° F.). Herpes is rare in typhoid, though common in malaria, and in the latter rose-colored spots do not occur; tympanites is

absent. By the end of the first week Widal's test may confirm typhoid or blood examination show plasmodia. Having these two tests at our command, no case should remain long in doubt.

Typho-Malaria.—Typhoid resembling malaria or presenting its features may be due to the ongrafting of fever of septic origin. Neglected cases of true malaria infection may, in rare instances, fail to yield at once to quinine, and lead to the suspicion of a typhoid element; but such cases are not and cannot be called typho-malarial fever, and a failure to resort to microscopic examination of the blood does not sanction a misnomer.—GORDON.

In nervous chill fever is absent, as in gall-stone colic, and the initial chill following the passage of a catheter.—OSLER.

PROGNOSIS.—Fatal cases are common in our Southern States and in tropical climes. In the North the prognosis is good.

Prophylaxis.—For those residing or travelling in malarious districts, pure water. Quinine, gr. v., in solution may be taken daily over prolonged periods. For a brief stay this dose may be increased.—THIN.

Avoid mosquito-infected regions and protect against the bite of the anopheles.

To be given after the paroxysms have been arrested :

℞ Tinct. iodi,
Tinct. ferri chloridi,
Tinct. sanguinaris.....ãã equal parts
M. S. Gtt. xiii.-xv. after each meal.

—CARPENTER.

In obstinate forms :

℞ Ferri ferrocyanidi,
Pulv. guaiaci resinæ.....ãã 3 i.
M. et ft. chart. No. xii. S. One powder thrice daily.

—ELLIS.

For rectal injection :

℞ Quininæ bisulphatis..... gr. xv.
Acidi sulphurici diluti..... q.s.
Aquæ..... q.s. ad 3 ij.
M. S. Inject.

Warburg's Tincture.—The following formula of this famous tincture, as given by Dr. Warburg himself, contains:

Socotrine aloes, 12 oz.; rhubarb, angelica seeds, confect. Damocratis, of each 4 oz.; elecampane, saffron, fennel, prepared chalk, 2 oz.; gentian root, zedoary root, cubebs, myrrh, camphor, larch boletus, of each 1 oz. Digest the above in 500 fluid oz. of proof spirit in a water bath for twelve hours, then express and add quinine sulphate, 10 oz. The mixture is replaced in the water bath until all the quinine is dissolved, then cooled and filtered.

Or, a simpler form:

Socotrine aloes, 5 troy oz.; zedoary root, 5 troy oz.; camphor, 2 drachms; angelica seeds, 2 drachms; saffron, 3 drachms; quinine sulphate, 3 troy oz.—288 grs.; proof spirit, 9 pints. Macerate seven days; strain, press, and filter.

℞ Quininæ sulphatis..... gr. x.
 Capsici pulv..... gr. iiij.
 Opii pulv. gr. i.
 M. S. One dose.

—ALONZO CLARK.

℞ Methylene blue..... gr. ij.-iiij.
 Quinin. sulphat..... gr. ij.
 Ferri carbonat..... gr. i.
 Ac. arsenosi gr. $\frac{1}{8}$

M. ft. caps. No. 1. S. In acute fevers one three times daily; in chronic forms one every four to six hours.

—DUNN.

Palatable effervescing quinine:

℞ Quinin. sulphat..... 4
 Acid. citric 10
 Syr. simplicis,
 Syr. aurantii cort..... āā 1
 Aquæ destillat..... q.s. ad 20

M. S. Add ten or more drops to 50 gm. of water containing 30 cgm. of bi-carbonate of sodium.

In autumnal fevers, to obtain the full antidotal effect of quinine we must saturate the system promptly.

To avert the adynamic stage, twenty to thirty grains of **quinine** in divided doses three times daily.

In case of insomnia, a hypodermic of morphine and atropine.
—BEDFORD BROWN.

℞ Quininæ sulphatis..... gr. xlv.
 Ferri et potassii tartratis..... gr. cv.
 Aquæ destillatæ..... ℥ iij.
 Liq. potassii arsenitis ℥ xxiv.
 M. S. 3 i. from one to three times daily.

Or, in graver forms:

℞ Quininæ muriatici..... gr. xv.
 Sodii chloridi..... gr. lss.
 Aquæ destillatæ..... 3 iiss.
 M. S. Use one-half the above quantity as an intravenous injection.

—BACCELLI.

Or—

℞ Quininæ sulphatis..... gr. x.
 Acidi sulphurici diluti..... ℥ x.
 Syr. aurantii..... 3 ij.
 Aquæ..... ad 3 i.
 This amount three times a day.

—FOTHERGILL.

Or—

℞ Hydrarg. chloridi mitis,
 Pulv. ipecacuanhæ et opii..... āā gr. iv.
 Quininæ sulphatis..... gr. xvi.
 For four pills. Two to be given at bedtime and two the following morning.

—CLAIBORNE.

For malarial and also uric-acid conditions :

℞ Quininæ sulphatis,
 Hydrarg. cum creta..... āā gr. xvi.
 M. et ft. capsulas viii. S. Two capsules each night at bedtime, followed by two drachms of epsom salts in a glass of hot water before breakfast.

—H. P. LOOMIS.

In gastric catarrh or the gastro-hepatic symptoms of lithæmia, precede the specific treatment of malaria by a short course of broken doses of calomel, and it may be necessary to give quinine by suppository or subcutaneously.—DALAND.

In malarial cachexia, in addition to eight grains of quinine in capsule on an empty stomach morning and evening:

℞ Liquor. arsenici chloridi..... gtt. v.
 Tinct. ferri chloridi gtt. xx.
 Elixir,
 Aquæ.....āā q.s. ad 3 i.
 M. To be taken three times a day, after meals.

—DA COSTA.

If the heart is feeble or arrhythmic :

℞ Digitalin (cryst.)..... 1
 Aquæ..... 1000
 M. S. Gtt. xv., to be followed by oxymel of squill and salts of potassium.

—VIDAL.

In hepatic involvement :

℞ Strychninæ arseniatis..... 0.30 gm.
 Sterilized vehicle.....q.s. ad 100 c.c.
 M. S. Inject every other day.

Each syringe-ful contains three milligrams of the arseniate.

℞ Quininæ lactatis 20 gm.
 Antipyrin 20 gm.
 Aseptic vehicle.....q.s. ad 100 c.c.
 M. S. Inject also every second day.

Each syringe-ful contains 20 cgm. quinine salts and 20 cgm. antipyrin.

Also a daily cold douche.—ROUSSEL.

In anasarca of malarial origin :

℞ Compound spirit of juniper 0 i.
 Sulphate of iron 3 ij.
 Acetate of potassium..... ʒ ss.
 Fluid extract of digitalis..... 3 ij.
 Syrup of squill..... ʒ ss.
 Dose, a tablespoonful three times a day.

In severe cases the patient is to drink also a cold infusion of elder root.—MULLONE.

In children :

℞ Ext. helianthi annui alc. (sunflower)..... gr. ʒ
 S. In the twenty-four hours.

This gives satisfactory results.—MONCORVO.

Or—

℞ Quininæ sulphatis..... gr. xxiv.
 Acidi sulphurici diluti gtt. xxx.
 Syr. zingiberis,
 Syrupi,
 Aquæ ãã 3 i.

M. S. 3 i. three or four times daily, according to the age.

—MEIGS AND PEPPER.

Or—

℞ Tinct. eucalypti globuli,
 Alcoholis..... ãã 3 ij.
 Quininæ hydrochloratis..... 3 ss.
 Quinoidinæ ʒi.
 Acidi hydrochlorici..... sufficient to make a solution.

Dose, from 20 to 40 drops five times a day.

—ZUCKERMANN.

In malaria in infants, when malnutrition progresses in spite of continued small doses of quinine and perhaps of diluted hydrochloric acid:

℞ Liq. potassii arsenitis..... 3 ss.
 Tinct. ferri malat 3 ij.

M. S. Five drops three times daily for a child of three years, and increase one drop per diem until forty drops are taken in twenty-four hours. The dose is then to be diminished drop by drop.

Caution.—Arsenic is contraindicated when there is gastric complication. Change of locality is then demanded.—FEUCHT-WANGER.

Disguise the taste of quinine by combining with chocolate.

For hypodermic injection:

℞ Quininæ hydrochloratis..... 1 part.
 Aquæ destillatæ 4 parts.
 M.

With proper precautions the injections are not followed by abscesses.

Or, quinine may be given in enema; the quantity of solution should not exceed one ounce.—BINZ.

When improvement has not occurred under quinine and arsenic, methylene blue, 0.25 cgm., three times daily.

To reduce temperature, external application of creosote and guaiacol (℥ xv.).

When quinine cannot be given by the mouth:

℞ Quininae sulphatis gr. xv.
 Acidi hydrochlorici sufficient to make soluble.
 Aquæ dest. 3 i.

M. S. Inject twenty minims into the cellular tissue of back or forearm, followed by gentle rubbing to aid in diffusion.

—BENSON.

Caution.—This quantity of acid might cause inflammatory reaction.

When quinine treatment has not succeeded:

℞ Tannin 4 gm.
 Sweetened water 150 "

Give one-quarter part every two hours, fasting, but with abundance of fluid between the doses. On the third and sixth days two doses are given.

—ALIX.

℞ Quinine muriate..... gr. xlv.
 Antipyrin gr. xxx.
 Distilled water 3 iss.

M. Boil the water in a clean test tube, and add the ingredients; filter while hot through sterile paper. S. Inject from fifteen to thirty drops, and repeat if necessary.

—E. J. KEMPF.

℞ Olei terebinthinæ..... 3 i.
 Syrupi 3 ij.

M. Add four ounces of water while stirring, let cool, strain, and give in teaspoonful doses.

—BRODNAX.

To cleanse the chylipoietic system:

℞ Podophyllin..... gr. i.
 Leptandrin..... gr. ij.
 Iridin gr. i.
 Ext. nuc. vom gr. i.
 Capsici..... gr. i.

M. ft. pil. xl. S. One or two three times a day.

—KEMPF.

In giving quinine give enough. Sixty grains daily or ten every four hours will arrest an attack in seventy-two hours or less. Thirty grains daily in three-grain doses will prolong it to

five or six days. Ten grains every eight hours will have more effect on the germs than two grains every hour, and will not make the patient so nervous. In swamp regions the dose for a child between the ages of one day and eight years is five grains.—BEDFORD BROWN.

Ear buzzing may be controlled to a large extent by simultaneous use of small doses of atropine.—AUBERT.

In malarial hæmaturia, prevent by giving quinine in requisite amount at the proper time.

When the kidneys are not acting well it is very hazardous not to administer quinine.—SEARS.

Keep the bowels open with calomel followed by salts, use hot mustard baths, and administer the following combinations in alternation every three hours:

R Spirit. terebinthinæ	3 ij.
Acidi carbolici	gr. x.
Potassii chloratis	3 iij.
Spirit. lavandulæ comp.	3 ij.
Acaciæ gum.	3 iij.
Aquæ menthæ piperitæ	q.s. ad ʒ iv.

—J. E. LONG.

R Sodii hyposulphit

3 i.

Give in water.

Repeat every two hours until thorough purgation, then continue in smaller doses. Quinine not only fails to arrest, but aggravates every symptom and adds to the mortality.—MEEK.

R Quininæ sulphatis	3 i.
Tinct. ferri chloridi	3 v.
Liq. acidi arseniosi	3 iss.
Potassii chloratis	3 i.
Syr. zingiberis	q.s. ad ʒ iv.

M. S Teaspoonful in water thrice daily, after meals.

—GUICE.

In bilious remittent malarial infection, rectal injections of carbolic acid. Hypodermics of quinine.

For the profound nervous depression :

℞ Sodium arseniate	gr. iij.
Strychnine sulphate	gr. iss.
Distilled boiled water	℥ iss.

M. S. Teaspoonful as required.

—PEPPER.

Simple intermittent in adults :

℞ Massæ hydrargyri	gr. x.
Ext. hyoscyami	gr. v.
Quininæ sulphatis	gr. xx.

M. ft. pil. No. x. S. One every hour during the afternoon, to be followed by salines in the morning.

—E. J. KEMPF.

In pernicious malaria, a very fatal form, supposed to be due to greater intensity of action of the parasite, or, what is more likely, to greater susceptibility, quinine hypodermatically.

To check recurrent paroxysms:

℞ Pil. ferri carbonatis	℥ i.
Ac. arseniosi	gr. i.
Quininæ sulphatis	℥ ij.

M. ft. capsulas No. xx. S. One capsule three times a day.

℞ Quininæ sulphatis	℥ iss.
Liq. potassii arsenitis	℥ iss.
Tinct. ferri muriatici	℥ ss.
Syrup. zingiberis	℥ iss.
Aquæ destill. ....q.s. ad	℥ iv.

M. S. Dessertspoonful after meals.

Fever, Mediterranean.

DIAGNOSIS.—T. Zammit says in every case of fever the method of serum reaction should be used in diagnosis. He submits the following facts gathered during the past year: (1) The micrococcus of Bruce can be grown successfully from a culture seven months old; (2) cultures of the micrococcus two years old give a clear serum reaction; (3) the micrococcus does not grow on sea water solidified with agar, not even when the water has been taken from a sewage outfall; (4) the micrococcus grows on an agared solution of normal human fæces.

Fever, Miliary.

Sweating-fever occurs in epidemics, in which the attack begins with lassitude and distress in the region of the stomach, followed in from twelve hours to several days by profuse perspiration, debility, restlessness, and occasionally muscular cramps and delirium. On or about the fourth day, an eruption appears as the symptoms abate. This consists of a measles-like erythema occurring in crescentic patches, or it may resemble more a scarlatiniform rash.

DIAGNOSIS.—The diagnostic feature, however, is the occurrence of miliary papules changing into vesicles, which rupture and discharge and are followed by desquamation. The vesicles are so minute that at first they can be felt better than seen, until later on, when they increase in size and the contents become turbid. The vesicles appear usually first upon the chest and neck, subsequently invading the trunk and extremities. Convalescence beginning about the tenth day is usually prolonged and accompanied by anæmia.

PROGNOSIS for mild cases is good, while in epidemics of severe type the mortality may be high (33 per cent).

TREATMENT.—*For the sweating*, atropine sulphate, gr. $\frac{1}{100}$, by the mouth or hypodermatically.

For the precordial distress, anodynes.

Fever, Relapsing.

This epidemic affection has a period of fever of from five to seven days' duration; then comes an intermission of a week followed by a relapse lasting three days. During the incubation, which may occupy as much as eight days of lassitude and transient pains, the diagnosis is not suggested except at times of epidemic prevalence. The incubation includes one or more chills,

frontal headache with dizziness, pains in the back and extremities, and prostration, in the presence of a temperature which may reach 106° on the first or second day. The face is flushed, the tongue is coated, the bowels are constipated; nausea and vomiting may also be present. While the crisis usually occurs upon the fifth, sixth, or seventh day, it may be as late as the tenth, when the temperature, previously as high as perhaps 108° , falls at once to normal or to a subnormal point. All the symptoms subside in a strikingly abrupt manner, their disappearance often being attended with sweating. In the relapse the temperature may go even higher than before.

DIAGNOSIS.—The spirilla of Obermeier are constantly present in the blood during the paroxysm. These are slender, wavy spirals, measuring from 16μ to 40μ , staining with Löffler's blue (alcoholic solution of methyl blue, 30 c.c.; 1–10,000 solution of caustic potash, 100 c.c.) or other aniline colors. This serves to distinguish the affection from typhus, since both diseases develop under similar conditions of faulty hygiene. Relapsing fever has, however, no peculiar eruption and the sensorium is rarely much disturbed, the patient being but slightly affected with stupor.

DIFFERENTIATION.—In yellow fever temperature is lower, pulse slower, jaundice more marked, and the eye has a "fiery appearance."

Remittent fever shows a regular remission; there are no pains in the muscles and joints as in relapsing. It has no relapses and no crisis.

In dengue, the remission occurs on the third or fourth day; the joints are swollen, and the glands enlarged and tender. An eruption also appears in the relapse.

Typhoid is excluded by finding spirilla in the blood. The course of the first paroxysm may closely resemble a short typhoid.

Exanthemata resembling roseola, purpura hæmorrhagica, urticaria, herpes, measles, and scarlatina were observed in eight per cent of Loewenthal's cases.

A parenchymatous glossitis has been observed as a rare complication in a case ending fatally.

PROGNOSIS.—Mortality ranges from four to eighteen per cent.

TREATMENT.—*To relieve muscular pains*, antifebrin, phenacetin, or antipyrin.

As a roborant, quinine. It will, however, not prevent the relapse.—TYSON.

Or, opium hypodermically or by the mouth.

For the wakefulness, chloral, trional, sulphonal.

For the fever, cold baths.

For collapse, alcohol, strychnine, digitalis.—WOOD AND FITZ.'

Fever, Simple Continued.

In the protracted form of simple continued fever the thermometer records a point sometimes as high as 103° F. There is a slight morning remission and evening rise. In the so-called thermic fever of Southern States there is much nervous excitement and also sleeplessness. It lasts from two to six weeks, and sometimes longer.

DIAGNOSIS is chiefly by exclusion, since there are no characteristic symptoms.

DIFFERENTIATION.—The chief distinction is to be made from typhoid fever in its irregular form by the absence of eruption and of most of the typical symptoms of typhoid; when the spleen is enlarged and the resemblance to typhoid is otherwise close, the Widal test or the element of time will settle the point. From malarial fever by the absence of the plasmodium and of any decided intermission, and by the fact that antiperiodics are without effect. It is furthermore to be distinguished from lithæmia in its febrile state. From influenza by its not occurring in epidemic form, and by the fact that more than one person in a family is rarely affected. Catarrhal symptoms, if any, are very slight and there are no deep-seated pains.

PROGNOSIS.—Fatal cases occur, as a rule, only when the fever is due to some definite infection.

TREATMENT.—The treatment of prolonged simple continued fever is purely symptomatic. Quinine has no effect and ordinary antipyretics here only a temporary influence.—DA COSTA.

Antipyretics may be given to relieve headache, but they may prove harmful if given in large dose with the view of reducing temperature.—BIRNIE.

Fever, Typhoid.

It is only during the first week of enteric fever that the diagnosis presents difficulties. The same chilliness, mental sluggishness, and muscular weakness, are complained of as occur in other febrile conditions. It is only when the temperature goes a little higher each night, nose-bleed occurs, and the spleen can be made out to be enlarged that the diagnosis is established with any degree of positiveness.

This can always be ventured with greater confidence if it is known that the disease is prevalent in the neighborhood.

DIAGNOSIS.—In the first week the fever is the only constant indication, and this may be attended with evidences of bronchitis tending rather to mislead. There is a steady rise until the temperature reaches 103° or 104° F. There is a morning fall of from a half to one and a half degrees. Persistent frontal headache, if present, should be a cause for suspicion. Tenderness in the right iliac fossa is a sign of much value, especially when attended with prostration and loss of appetite out of proportion to the febrile signs. The expression is dull or apathetic. The tongue is covered with a thick white or creamy fur, which subsequently becomes more of a yellowish-brown, and the breath has a peculiar mouse-like odor. While the tendency to diarrhoea is quite constant it is not wholly so, and when accompanied by distention from gases, and a distinct gurgling-sound

and sensation beneath the fingers occur upon pressing firmly in the right iliac region, the strongest suspicions are aroused. The discharges are best described by the familiar term of "pea-soup" stools. Movement of the bowels is not painful. The temperature in a mild case is more apt to be below than above 103° . In the second week of a mild attack it goes slightly above 104° , being higher each evening and down again in the morning. When the eruption is present it is strikingly characteristic, and is usually sufficient to decide the question or confirm a doubtful diagnosis. The lesions consist in isolated, slightly elevated, rounded or oval-formed papules, varying in size from 1 to 4 mm. The color is distinctive in being of a rosy or pink hue. If traction is made upon the skin alongside of a lesion, the color momentarily disappears. There are successive crops, the duration of each papule being four days at the most, and it may be followed by faint pigmentation. The eruption is rarely present before the end of the first or beginning of the second week. Enlargement of the spleen comes earlier. Percussion over the left hypochondrium may give a palm-sized area of dulness. Dr. Baruch says that resistance of the rectal temperature to a bath with friction, at 75° for fifteen minutes, is almost a sure test for typhoid fever. If a bath gradually cooled from 90° to 75° fails to reduce the rectal temperature two degrees in one-half hour, the diagnosis of typhoid fever is almost certain. Elsner's culture test is based on the fact that the Eberth bacillus alone grows upon the medium (potato-gelatin to which one per cent of iodide of potassium is added). This, as well as Pfeiffer's serum test, is open to objection as a working method. The Widal test accomplishes much more satisfactory clinical results. It is of clinical value, although certain chemical agents produce like results. The test is based upon the theory that the blood of typhoid subjects contains some substance incompatible with the life of the bacillus typhosus when brought into contact with it. This is said to appear in the blood in from four to

seven days after the onset of clinical symptoms. The bacilli group themselves into clusters and their active movements become arrested. Dried blood may be utilized in the test; a drop is sufficient. No special apparatus is required. The movements of the bacilli can be seen with an eighth objective. A recent broth-culture can be obtained from a bacteriologic laboratory.

The simplest way of testing is to prick the finger pulp and suck 3 c.c. of the patient's blood into a hæmacytometer tube ($\frac{1}{4}$ c.c. will suffice). Blow out and allow to clot. Add the serum to 10 c.c. of bouillon cultivation of Eberth's bacillus. In about twenty minutes the microscope will show the characteristic aggregation of the microbes if typhoid fever be present.—WIDAL.

Caution.—In order to avoid mistaking a normal agglutination reaction for the typhoidal, a dilution should be used such as is not known ever to give a reaction with non-typhoid blood. The negative result of a preliminary test with equal parts of serum and culture suffices to exclude typhoid. If positive, a low dilution (1 in 10) may be used.—WM. H. WELCH.

The serum diagnosis, as first applied by Widal, is by no means a positive one. The serum reaction is not a specific one, and it has certain limitations which might lead to false conclusions. The culture should be of high and known degree of virulence and the bacillus actively motile. One should dilute in the proportion of 1 to 10; higher dilutions do not show any special advantages. The absence of a reaction does not exclude the diagnosis of typhoid fever. Much the same results are given by the dried and the fluid serum. The serum is first procured by cantharides blister. An expert bacteriologist is required to make the test.—GUERARD.

Absence of agglutinations excludes the diagnosis of typhoid. Complete and permanent agglutination does not with certainty signify typhoid, since the reaction may take place when the typhoid has already run its course.—GERLOCZY.

In children a mild form of fever with perhaps slight cough **is** often typhoid without characteristic clinical symptoms. It **may** last not over nine days or for several weeks. Quinine does **not** affect it favorably.—J. L. SMITH.

It is rare under two years of age. The remittent secondary **stage** is absent in over fifty per cent, but relapses are frequent. Constipation is more common than diarrhoea. Tenderness is **rarely** marked. Hemorrhage is very rare.

The eruption usually comes out earlier than in the adult.

Capillary bronchitis is present in forty per cent and may mask **abdominal** symptoms. Meningeal symptoms are not infrequent. Albuminuria is common, but serious renal complications are **rare**.—J. L. MORSE.

Rose spots are present in sixty-six per cent. Tympanites is **nearly** always present to a slight degree and also gurgling. Tuberculous meningitis is excluded by the regular breathing and pulse, unsymmetrical or abnormal pupils, stupor rather than delirium, and convulsive movements. Pneumonia develops more rapidly.

Simple diarrhoea and enteritis are not accompanied by fever. In typhoid the stools are painless and not green.

Measles and typhus have larger spots, and variola likewise has the eruption by the fourth instead of the eighth day.—W. L. STOWELL.

DIFFERENTIATION.—The rather characteristic range of temperature, especially when taken along with the rosy papules, nose bleed, diarrhoea, and dulness of expression will leave no doubt concerning cases at all typical. Those which simulate malarial fever, especially as it occurs in subtropical regions, those which simulate cerebro-spinal meningitis, or those which suggest pneumonia or generalized tuberculosis as well as concealed suppuration, spoken of by Tyson, will be distinguished if the various tests now at our command are carefully applied. Typhus fever shows no abdominal symptoms and the eruption

which occurs is macular, larger, of duskier hue, and subsequently becomes petechial. Certain instances of appendicitis simulate typhoid, but the local symptoms and abdominal tenderness are all much more acute. In meningitis the patient, instead of being apathetic, is restless and irritable; vomiting also occurs and the temperature varies within a wider range. Among other conditions which at times simulate typhoid and are mistaken for it are to be included lumbricosis, trichinosis, uræmia, salpingitis, influenza, gastritis, ptomain poisoning, appendicitis, and genital-tract infections.

If intestinal fermentation and the choleras are excluded, indican in the urine is said to be almost as diagnostic as Ehrlich's test.

To test for indican, mix the urine with an equal amount of strong hydrochloric acid. Add drop by drop a 1 in 20 solution of chlorinated soda. A green color indicates its presence; an excess gives a blue color, especially in the presence of chloroform.

The "diazo" reaction in the urine is quite constant from the second to the seventh day. Its intensity is said to vary with the severity of the case. Malarial fevers, gastro-enteritis, and gastric fever may be excluded by it, but its occurrence in many other affections prevents its being of positive diagnostic value, though it is of differential and prognostic worth.

In using Ehrlich's diazo test, the following solutions, freshly prepared, are employed:

(a) Hydrochloric acid, 5; water, 95; sulphanilic acid to saturation.

(b) Sodium nitrite, 0.5 per cent.

Mix forty parts of (a) with one part of (b) in a test tube: then add an equal amount of urine and shake the contents thoroughly. Then allow a quantity of ammonia water to run down the side of the test tube from a pipette, until a layer is formed. If the aromatic compounds upon which this test depends are present, a brilliant garnet ring is formed at the junction of the

layers. If the tube is then shaken violently, a beautiful rose-colored froth appears.

Modification of Test.—If instead of the 1 to 40 solution 1 part (b) to 100 parts (a) is used, the mixed reds and yellows mostly disappear. The reaction remains distinct for typhoid, septicæmia and advanced malignant disease, but pulmonary tuberculosis and pneumonia are excluded.

In doubtful or negative cases the surface foam after shaking is yellow, while if the reaction be present it is a delicate pink or rose red.—CHAS. L. GREENE.

The diazo reaction is found in typhoid pneumonia, measles, miliary tuberculosis, sepsis, and severe cases of phthisis. It is absent in meningitis.—KLEMPERER.

Typhoid may be distinguished from appendicitis and perityphlitis by heating a drop of blood with iodine. The multinuclear cells are stained in diseases producing pus.—S. WEISS.

PROGNOSIS.—Mortality varies according to the plan of treatment. Under the expectant method it is about fifteen per cent, while under systematic cold bathing it has been reduced to about seven per cent.

In children under three years of age the prognosis is very grave; at four years it is not so serious, and at five years or over it is nearly always favorable.

The mortality has been reduced at least five per cent by the introduction into hospitals of the cool bath.—JUHEL-RÉNOY.

Elderly and obese subjects make prognosis correspondingly grave, while renal complication renders a fatal outcome almost sure. The higher and more continuous the fever, the more profuse the diarrhoea, the greater the tympanitic distention of the abdomen, and the more marked the cerebral symptoms, the worse the prognosis.—DELAFIELD.

TREATMENT.—From the beginning, insist that the mouth, tongue, and gums be kept clean.—DELAFIELD.

Perfect rest of both body and mind. Plenty of cool water,

no alcohol, in young, vigorous subjects. For headache, cold compresses.—UPSHUR.

Brand Method.—Whenever the rectal temperature reaches 39° C. a full bath is given at the temperature of the room (65°-70° F.), and in heated seasons cooled down to this point by ice. The duration is of about fifteen minutes, during which the subject is systematically rubbed by several attendants and if able rubs himself. In very high temperatures the time may be prolonged to twenty or twenty-one minutes. When begun very early the patient may, if he prefers, step from the bed into the tub; otherwise the naked body, with a towel over the loins, is carefully lifted and deposited in the tub alongside. The head rests upon an air cushion and the forehead is covered with a wet compress. Patients with very high temperatures and nervous symptoms may have cold affusions to the head. The bed is arranged with a rubber sheet covered with a blanket, and this with a linen sheet, which is to be snugly tucked around the body and covered with a blanket. After ten or fifteen minutes, the surface may be thoroughly dried and the nightdress replaced. Milk or broth is now given, after which there is gentle sleep. The time in the tub is shortened if the patient becomes restless and shows too great cyanosis.

This has been variously modified by different practitioners.

The mortality rate before the introduction of the baths in a series of 1,828 cases was 14.8 per cent. In 1,902 cases with bathing the mortality was 7.5 per cent.—F. E. HARE.

Half an ounce of whiskey fifteen minutes before each bath: cold affusions to the head during the baths; glass of hot milk containing malt extract after the bath.—W. GILMAN THOMPSON.

Don't counteract the good effects of the baths by giving too much whiskey.—SHILER.

Not to give patients the benefit of this chance is to incur a responsibility to which no surgeon should expose himself.—NOGIER.

Mild nephritis is not a contraindication.—TYSON.

Tubbing is altogether the best treatment for the disease itself and not simply for the temperature reduction.—DELAFIELD.

The cold-bath treatment, rigidly enforced, appears to save from six to eight in each century of typhoid patients admitted to the care of hospital physicians. While I enforce the method for its results, I am not enamored of the practice. One equally life-saving and less disagreeable to the patient is a desideratum.—OSLER.

It is urgently demanded, because it helps patients to traverse comfortably the weeks of continuous fever and makes the prognosis better.—NORTHROP.

Apply the method in every suspicious case until the diagnosis can be made, and continue it in such as prove to be typhoid.—BARUCH.

To Disinfect the Intestinal Canal.—Chlorine water can be safely administered until complete disinfection of the alimentary canal is obtained. Under its use the tongue becomes cleaner, the appetite and digestion improve, fever declines, and the stools lose their offensive odor. The general strength, the intellectual processes, and nervous conditions improve. The disease is shortened in duration, and usually proceeds to rapid and complete recovery.—WILCOX.

Or at the beginning of the disease, give ten grains of calomel on alternate days. Give one grain of carbolic acid and three drops of tincture of iodine, every four hours, during the entire illness.—AUGUSTUS ELLIOTT.

I can testify to the inefficiency of carbolic acid and iodine and of the β naphthol.—OSLER.

Or, sulphocarbolate of zinc, gr. v. Repeat every three or four hours until the temperature falls.—SANGREE.

Or, boric acid, cgm. 0.50 to 0.75, after a purgative dose of castor oil containing five or six drops of turpentine.

Calomel, gr. $\frac{1}{10}$ – $\frac{1}{6}$, every half-hour until six, eight, or ten are taken.

Or, carbolic acid, gr. i., well diluted, every hour.

The Woodbridge Method.—On the appearance of the earliest symptoms:

TABLET NO. 1.

R Podophyllin	gr. $\frac{1}{16}$
Hydrargyri chloridi mitis.....	gr. $\frac{1}{16}$
Guaiacol carbonatis.....	gr. $\frac{1}{16}$
Mentholi.....	gr. $\frac{1}{16}$
Eucalyptol.....	℥ i.

One tablet of the above formula should be given every fifteen minutes during the first twenty-four hours, and larger doses during the second twenty-four hours if found necessary, so that during this and the succeeding twenty-four hours there may be secured five or six full and free evacuations of the bowels during each of these periods. On the third or fourth day the following treatment should be begun:

TABLET NO. 2.

R Podophyllin.....	gr. $\frac{1}{16}$
Hydrargyri chloridi mitis.....	gr. $\frac{1}{16}$
Guaiacol carbonatis	gr. $\frac{1}{2}$
Mentholi.....	gr. $\frac{1}{16}$
Thymoli	gr. $\frac{1}{16}$
Eucalyptol	℥ i.

One tablet to be given every hour or two.

TABLET NO. 3.

R Guaiacol carbonatis.....	gr. iiij.
Thymoli.....	gr. i.
Mentholi.....	gr. ss.
Eucalyptol.....	℥ v.

After three days capsule No. 3 is given, one every three hours, between which tablets (mostly) No. 2 are given according to the effect upon the bowels.

There have been treated 7,827 cases with 150 deaths, or 2 per cent., and a duration of a trifle over twelve days. These results prove that typhoid fever can be aborted.

They teach that it is amenable to curative treatment in all of its stages, and they go far toward proving that death and protracted illness are wholly unnecessary consequences of the disease.—WOODBRIDGE.

Modified Woodbridge treatment:

R Hydrargyri chloridi mitis.....	gr. x.
Thymoli,	
Eucalyptoli,	
Salol.....	āā 3 i.
Guaiacol carbonatis.....	3 ij.

M. div. in capsulas No. xx. S. Give one every three hours.

—MULHERON.

Believers in the abortive treatment of typhoid must bear in mind the existence of the *abortive form of Liebermeister*, and the *typhus levis* of Griesinger, intelligently to differentiate typhoid from the diseases with which it may be confounded.—R. W. HOLMES.

Hydrargyrum chloridum mite, gr. $\frac{1}{20}$, every fifteen minutes.

Alternate with guaiacol, gr. v.

If the calomel produces sore mouth, substitute sulphate of magnesium. In mild cases, these drugs may shorten the attack, but in severe ones they have no effect. Intestinal antiseptics is not of any real value.—DELAFIELD.

To reduce temperature, local applications of guaiacol over the right iliac region.—H. G. McCORMICK.

Caution.—Not more than thirty minims are to be rubbed in at once.

In high temperature, when heart complications render usual antipyretics dangerous:

R Ammonii carbonatis 3 ij.
 Acidi salicylici..... 3 iiss.
 Elix. pepsini lactat.,
 Aquæ cinnamomi..... āā 3 ij.
 M. S. Teaspoonful in a little water every three hours.

—H. R. SLACK.

Caution.—Use only the translucent lump of ammonium carbonate to dissolve in the cinnamon water.

Or, guaiacol liquefied by gentle heat and painted over the chest wall, the area being covered with adhesive plaster, brings down the temperature from one to five degrees.—BLAISE.

Phenacetin, cgm. 0.50, six times daily. (Two hundred cases treated with three per cent mortality).—BIGNAMI.

Nothing equals the cold bath.—J. B. HERRICK.

Internal balneation, ice-water enemata.

Chill may be due to antipyrin or other antipyretics employed.

If we give the modern antipyretics in large doses chills will occur, which are due simply to the fact that the temperature has been depressed, and then it rises, and this rise is ac-

accompanied by mild and sometimes by severe chills. Drop your antipyretics and the chills disappear.—JANEWAY.

Cold-Air Treatment.—Patient lies on a tube mattress and is covered by another through which a cooling mixture flows. By means of taps, warm water can be turned on first and the temperature lowered to the required degree. The advantages over tubbing are, first, no handling of patient; second, no shock.—J. MURRAY-GIBBES.

To insure mental and physical rest and to lessen nervous exhaustion, morphine sulphate, gr. $\frac{1}{8}$, to be repeated as necessary, with whiskey by the mouth or hypodermatically.—C. W. CUTLER.

Wedgwood treatment :

℞ Liq. ferri perchloridi ℥ xx.
 Liq. hydrargyri perchloridi. ℥ xxx.
 M. S. Every four hours.

I regard this as the best treatment for the generality of cases.—EWART.

Carbonate of creasote compound :

℞ Carbonate of creasote..... 3 xix.
 Thymol 3 vi.
 Menthol..... 3 iij.
 Eucalyptol 3 viiss.
 Alcohol, commercial..... . q s. ad 3 viij
 M. ft. solutio. S. This is stock solution.

To make emulsion from the above, in order better to administer it, use

℞ Solution of compound carbonate of creasote..... 3 v.
 Powdered gum arabic..... 3 iss.
 Pure water..... 3 iv.

M. S. One teaspoonful every three hours in wineglass of water, to be followed by a drink of water.

—T. W. SIMMONS.

℞ Pulv. carbonis ligni..... 3 iij.
 Iodoformi gr. xv.
 Naphthalini gr. lxxv.
 Glycerini 3 vi.
 Carnipepton 3 iss.
 M. S. A teaspoonful every two hours in one-third glass of water.

—BOUCHARD.

My favorite prescriptions for an adult are:

℞ Thymoli..... 3 ij.
 Saponis medicinalis..... q.s.
 M. ft. capsulæ No. xxx. S. One every four hours.

Or—

℞ Thymoli,
 Guaiacol carbonatis.....āā 3 iss.
 Saponis medicinalis..... q.s.
 M. ft. capsulæ No. xxx. S. One every four hours.

I combine the guaiacol carbonate, especially when the lungs are involved.

I first clear the alimentary tract with calomel, grs. ii.–v., followed by a saline.—ROYSTER.

Glycozone, as in cholera infantum.—AULDE.

℞ Salol..... 3 i.
 Thymoli..... gr. xxxvi.
 Bismuthi subnitratis..... 3 ij.
 Mucilag. acaciæ..... 3 ij.
 Syr. toluani..... 3 iv.
 M. S. Tablespoonful three times daily.

—ALFRED MOORE.

Antiseptic oxygenation :

℞ Methylenæ bichloridi..... 3 i.
 Sol. hydrogen. peroxidi (10 vols.)..... 3 i.
 Acidi hydrochlorici diluti..... ℥ xxx.
 Aquæ destillatæ..... q.s. ad 3 vi.
 M. S. One-half ounce every three hours in half a tumbler of water.

—B. W. RICHARDSON.

℞ Naphthol (alpha)..... gr. iv.
 Phenacetin..... gr. iiij.
 Pulv. rhei..... gr. i.
 Tinct. cinnamomi..... ℥ ij.

For one tabloid. One or two six times a day.

Or—

In severe cases :

℞ Naphthol (alpha)..... gr. viij.
 Bismuthi salicylatis..... gr. ij.
 Pulv. rhei..... gr. ij.
 Ext. belladonnæ..... gr. ½
 Pulv. cinnamomi..... gr. iiij.

In cachet. One four to six times daily.

—MAXIMOWITSCH.

For an adult :

R Salol.....	℥ij.
Thymol	℥ij.
Tablets of cupric arsenite (āā cgm. 0.01)	No. xx.
Papoid.....	℥ij.
Guaiacol carbonate.....	3 ss.
Soap powder.....	gr. v.
M. ft. caps. No. xx. S. One every four hours with milk.	

—VIKO.

Salol, gr. v -x., every four hours until the urine is tinged; then lessen the dose.—BRAMWELL.

Calomel, gr. $\frac{1}{20}$. Repeat every quarter or half hour for two or three days.

Following Dr. Delafield's suggestion, I would discontinue the calomel just as soon as the system has been brought under its influence, and would maintain gentle catharsis by Epsom or other salts or mineral waters, aided by copious draughts of pure water, and would put the patient upon the chlorine-water treatment of Burney Yeo, and keep him on that and on liquid diet until convalescence is well established.—R. C. NEWTON.

Cases that run the shortest course with least trouble and least mortality are those in which there has been constipation not treated by calomel or with intestinal antiseptics.—OSLER.

Keep the bowels thoroughly open and the alimentary canal as aseptic as possible. Such good nourishing food as the patient will readily assimilate. Plenty of water by both mouth and rectum. Use the best intestinal antiseptic known. Never give opium, phenacetin, or acetanilid. Give strychnine as indicated. If this plan is followed, you will rarely have a death from typhoid fever.—H. G. McCORMICK.

To relieve the flatulency, a few drops of milk of asafoetida and a few drops of the oil of turpentine well mixed.—HARE.

Or, oil of turpentine together with oil of anise.—KING.

For intestinal hemorrhage :

℞ Benzonaphthol..... 5 gm.
 Salicylate of bismuth..... 10 gm.
 Extract of opium..... 0.10 cgm.
 Syr. of rhatany..... 30 gm.
 Syr. of orange flower..... 30 gm.
 Mucilage..... 120 gm.
 Soupspoonful every half-hour.

Lead-and-opium pill by the mouth and small doses of morphine hypodermically. Normal salt solution is injected when there is much loss of blood, and favorable results follow its use in most desperate cases. A fatal result may follow in typhoid fever without blood appearing externally, so we must be on our guard.—OSLER.

Ergotol hypodermically in conjunction with ice-water enemata.—H. G. McCORMICK.

Or, subcutaneous saline injections:

℞ Sodii phosphatis.... 6 c.c.
 Sodii chloridi..... 6 c.c.
 Aquæ destillatæ..... 1,000 c.c.
 —GIRAUD.

Oleum terebinthinæ, 3 ss. Phenacetin up to gr. x.

Serum Treatment.—Serum of immunized horses may be used.—CHANTEMESSE.

Or that of sheep.—BORGER.

To disinfect the fæces as thoroughly as possible:

℞ Hydrargyri chloridi corrosivi..... 3 ij.
 Acidi hydrochlorici diluti..... 3 x.
 Aquæ..... 0 i.

Or—

℞ Hydrargyri chloridi corrosivi..... 3 ij.
 Potassii permanganatis..... 3 ij.
 Aquæ..... 0 i.
 —DELAFIELD.

Hygienic and dietetic measures must be mainly depended upon, with the free use of water internally and externally. In

the average case there is no substitute for milk in some form—plain, boiled, peptonized, or with lime or soda; two quarts daily is the minimum. In exceptional cases when exhaustion has been marked, I have given twenty whole eggs or the whites of forty eggs in twenty-four hours.—W. S. ELY.

Milk is the best food for typhoid patients. Give two or three quarts in twenty-four hours. Less than two is not enough, over three is too much.—DELAFIELD.

1. Milk, hot or cold, with or without salt, diluted with lime water, soda water, apollinaris, vichy; peptogenic and peptonized milk; cream and water (*i.e.*, less albumin); milk with white of egg; buttermilk, koumyss, matzoon, milk whey; milk with tea, coffee, cocoa. 2. Soups: Beef, veal, chicken, tomato, potato, oyster, mutton, pea, bean, squash; carefully strained and thickened with rice (powdered), arrowroot, flour, milk or cream, egg, barley. 3. Horlick's food, Mellin's food, malted milk, beef peptone, bovine, somatose. 4. Beef juice. 5. Gruels: Strained cornmeal, crackers, flour, barley water, toast water, albumin, water with lemon juice. 6. Ice cream. 7. Eggs, soft-boiled or raw; egg-nog. 8. Finely minced lean meat, scraped beef. The soft part of raw oysters. Soft crackers with milk or broth. Soft puddings without raisins. Soft toast without crust. Blanc mange, wine jelly, apple sauce, and macaroni.—F. C. SHATTUCK.

During the past eleven years the following plan excluding milk has proven most satisfactory in adults as well as in children:

(1) *One* dose of calomel to empty the intestine.

(2) Irrigation of the rectum (*without* tube) with three pints of warm water (without salt), every six to twelve hours.

(3) Every three hours (five times daily) one-half pint of soup (barley, rice, oatmeal with meat broth and *yolk* of egg, later also soup of peas and lentils) are given to the adult patient.

(4) Before each meal ten drops of the diluted hydrochloric acid in one ounce of water, unless hyperacidity prevails.

(5) Between meals and during the night cold plain water *ad libitum*.—A. SEIBERT.

To aid stomach digestion, a properly regulated dietary, hydrochloric acid, pepsin, and the like, and nux vomica to stimulate motor activity. These remedies are antiseptic in their widest acceptation.—H. A. WEST.

Once the diet has been found which agrees with the patient, whether it be milk or other, it is important that it be not changed without grave cause. It can be continued for ten days after cessation of fever.—SAMUEL WEST.

Defer stimulation until cardiac weakness gives warning of imminent vital exhaustion.—SKINNER.

When a patient on milk diet is not doing well and temperature goes up, give animal broths (mutton, chicken, beef) instead.

Hard-boiled eggs grated and given as a sandwich.—HEINEMAN.

In convalescence no solid food should be allowed for a week or ten days after return to normal temperature.

My custom has been not to allow solid food until the temperature has been normal for ten days.—OSLER.

In children :

R Guaiacol.....	3 i.
Glycerini	3 i.
Alcoholis	3 ij.

M. S. One to six drops in whiskey and water every two hours, according to the age of the patient.

—KOENIG.

Cold sponging with or without alcohol.

For restlessness and delirium, Dover's powder. *For intestinal antiseptis*, turpentine or salol. *For heart tonic*, camphor and strychnine.—W. L. STOWELL.

For headache, restlessness, and irritability, codeine, gr. $\frac{1}{4}$, or sulphonal, gr. x.-xx., or bromide of sodium, gr. xx.—DELA-FIELD.

To reduce temperature and to induce sleep, lactophenin,
gr. iii.–viii.—F. GORDON MORRILL.

For children:

R̄ Beta-naphthol (dissolved in heated oil).....	gr. xxiv.
Olei amygdalæ dulcis (dissolved in heated oil).....	℥ ss.
Olei cassiæ.....	℥ i.
Pulv. acaciæ.....	q.s.
Glycerini.....	℥ ss.
Aquæ.....	q.s. ad ℥ iij.

M. ft. emulsio. S. One teaspoonful every four hours with milk for a three-year-old child.

—E. VIKO.

Fever, Typhus.

The locality in which typhus fever develops does much to aid us in arriving at a just estimate of the condition. Its being known by the common terms of “ship fever,” “camp fever,” “jail fever,” and the like, serves to indicate its great tendency to affect inmates of crowded localities and insalubrious surroundings.

DIAGNOSIS.—There is at first the same chilliness as in typhoid, with headache, prostration, and dizziness, but here there is pronounced pain referred to the region of the back and thighs. Instead of passing the first week up and about, as in typhoid, the patient is compelled to seek the recumbent posture. Here, too, the temperature, instead of rising gradually, attains a maximum perhaps of 105° by the end of the second day. The pulse, in a severe case, is feeble and small, though retaining a soft quality. There are also redness of the eyes and contracted pupils. During the first week of the disease there is venous congestion of the face and conjunctivæ.

Eruption.—The spots are of irregular size and shape, and are of a dull red or of a bluish, dusky hue, appearing between the fourth and seventh day. They may often be first seen about and in the infra-axillary area before they appear upon the abdomen. Unlike the eruption of typhoid, it does not come out in crops, but may develop purpuric or hemorrhagic features, and may persist

as long as ten days. Odor of a musty, pungent character is often present.

DIFFERENTIATION.—From typhoid it is distinguished by the greater severity of the chill, as a rule, as well as of the other early symptoms, along with greater fever, prostration, and earlier development of cerebral symptoms, which are likewise more constant and more severe. Tympanitic distention of the abdomen does not occur in typhus.—DELAFIELD.

In cerebro-spinal fever the head symptoms are more intense and include hyperæsthesia and tendency to retraction. There are also convulsions and strabismus, and an uncertain and irregular course of symptoms.

In pneumonia the pulse is slower, respiration quicker, the eruption is absent, and physical examination decides the question. In uræmia there is usually some œdema.

PROGNOSIS.—In severe epidemics the mortality is as high as from 30 to 35 per cent. Below the age of five and in patients over sixty it reaches the high point of from 60 to 70 per cent. The prognosis can be stated as unfavorable in alcoholics and in those who show early signs of cerebral disturbances, hemorrhagic eruptions, adynamic conditions with muscular tremblings, etc.

TREATMENT.—The bowels should be kept open and alcohol freely given, while all depressants are withheld.

In epidemics, when the conditions of the climate are suitable, the cases are best treated in tents in the open air.—OSLER.

Fresh air is of the greatest importance. Keep the windows open all the time, irrespective of the weather.—DELAFIELD.

Fever, Yellow.

An early diagnosis of an early case has greater import in this affection than in almost any others here discussed. This, however, is not so easy a matter as it is an important one. There is a chill followed by fever, in which the face is flushed, the

conjunctivæ are injected, the pulse is full but slow and gaseous, and the temperature ranges from 101° to 109° F. There are headache, severe pains in the back and limbs, dry skin, tongue furred but moist with red margins and usually tremulous, urine scanty, often albuminous, by the third or fourth day even in mild cases, and probably always so in the second stage. If by this time there is a high percentage of albumin and the other symptoms are marked, an almost positive diagnosis may be ventured. Upon the second or third day nausea becomes aggravated and "black vomit" characteristic of the affection occurs. The latter in moderate cases resembles coffee grounds and in severe ones a tarry substance. Vomiting may, however, be of a bilious character, or watery, or may be wholly lacking. The stage of decline, following the above symptoms, may occupy from a few hours to two days, to be followed by a stage of febrile reaction. In the second stage or that of depression the temperature may be normal or even subnormal, and the patient may appear so well that if seen first at this time a mistake is apt to be made. The eye and skin symptoms are at this time, however, rarely absent.

DIFFERENTIATION.—In remittent malarial fever, the chill is longer, the remission earlier, the tongue has a thick yellowish coating, is thicker and more flabby, and above all the plasmodium is to be found in the blood.

Relapsing fever has its relapse considerably later. The pulse is much more rapid, the jaundice slight and late in developing.

Acute yellow atrophy has higher fever and pulse rate, comes on more insidiously with early jaundice, while black vomit is a late manifestation, and the urine contains an abundance of bile.

Pernicious and hemorrhagic malarial fevers, besides being distinguished by Laveran's plasmodium, show early remission, lack of albumin aside from that due to blood, while delirium and stupor are common.

Yellow Fever.

Bilious Remittent.

Incubation, five to nine days.
 Duration, three to seven days.
 One paroxysm terminating in recovery or collapse.
 Very severe nausea and vomiting; early epigastric tenderness.
 Black vomit.
 Hemorrhages.
 Tongue clean or slightly coated.
 Pulse variable, slow at end.
 Eye injected and humid.
 Pain above eyes, in back and calves.
 Rarely delirious, mind generally clear.
 Urine albuminous, usually suppressed.
 Convalescence rapid.
 Muscular prostration slight.

May extend to months.
 Nine days or more.
 Several, with remissions.
 Not so severe nor so early.
 Bilious vomiting.
 None.
 Heavily coated.
 Quick until convalescence
 Natural.
 Fulness in head.
 Delirium frequent, mind dull.
 Not so.
 Slow.
 Greater.

—POTTER."

Dengue, occurring as it does in the same regions as yellow fever and prevailing at the same season, is to be carefully distinguished. Its first stage is of short duration, while the joint and muscular pains are peculiarly characteristic. The eruption, too, coming out about the third day and ending in desquamation, should suffice for its diagnosis.

PROGNOSIS should always be guarded on account of the high death rate. In the intemperate and those of full habit it is correspondingly bad.

A favorable result is to be looked for when the temperature during the first two days does not exceed 103.5° F.—STERNBERG.

Black vomit is an unfavorable though not always a fatal sign. In childhood the death rate is much lower than in advanced years. In certain epidemics there is a mortality of between fifty and eighty per cent for hospital cases and those between the ages of fifty and eighty. Relapse is often fatal.

TREATMENT is chiefly symptomatic. Prophylaxis includes everything understood under strict quarantine and hygiene.

At outset :

R Quinine,
 Calomel.....ãã gr. x.
 M. S. For one dose.

—CARPENTER.

As an antiseptic and antacid:

℞ Hydrargyri chloridi corrosivi..... gr. ½
Sodii bicarbonatis..... gr. cl.
Aquæ puræ O ij.

M. S. Three tablespoonfuls every hour given ice cold.

—STERNBERG.

For cerebral congestion, cold to head and mustard plasters to extremities.

To mitigate fever, etc., tincture of digitalis, gtt. xxx.-lx., every three or four hours.—BEMISS.

To attenuate the severer symptoms, tincture of eucalyptus has been advised in large doses.

Or—

℞ Tinct. eucalypti..... ℥ xxx.
Aquæ O ij.

M. S. As a frequent enema.

For uræmic symptoms, suppression of urine, etc., hot-air baths, digitalis, and cautious use of jaborandi.

Cold sponging at frequent intervals.

Twenty grains of calomel and twenty-five grains of quinine should be administered at once, followed after an interval by sulphate of magnesium. Mustard plasters should be applied to the entire abdomen, and mustard foot baths given frequently. After the saline has acted give:

℞ Potassii acetatis 3 i.-ij.
Potassii citratis..... 3 i.
Morphinæ sulphatis..... gr. i.
Aquæ..... 3 vi.

M. S. A dessertspoonful every three hours.

—F. P. PORCHER.

To sustain feeble heart in second stage, alcohol, iced champagne. Good quality Rhine wine is retained when all else is rejected.—BLAIR.

For hemorrhage, ergotin hypodermatically. Iron preparations.

To check tendency to black vomit, tincture of ferric chloride.—GUITÉRAS.

For vomiting:

℞ Tinct. camphoræ,
Chloroformiāā ʒ ss.
M. S. Two drops repeated as required.

DIET.—Liquid food only when fever subsides. Solid food too early favors relapse.

In gastric irritability milk and lime water until broths, etc., can be taken.

The sheet anchors are free catharsis, diuresis, and diaphoresis at the beginning, with large doses of quinine hypodermatically. After that secure mild catharsis and free diuresis throughout the disease, emesis when the vomit is turning from white to yellow, morphine when necessary to control vomiting or to overcome extreme nervous jactitations, and finally cardiac stimulants when indicated, generally from the beginning of the second stage.—J. E. STUBBERT.

Beta-naphthol, gr. viiss., every hour or two, according to indications, supplemented by a drink, to be taken *ad libitum*, composed as follows:

℞ Sodii benzoatis..... 3 iiss.-iiij.
Sacchari albi..... 3 ij.-3 iv.
Aquæ destill..... O ij.
M. S. To be drunk freely, mixed with an equal quantity of seltzer water, ice cold.

—T. S. DABNEY.

Administer a purgative, then sodium salicylate combined with aconite or antipyrin, followed by quinine, resorting to the chlorine water in the second or third stages and supplementing it with artificial serum in certain cases of anuria.—A. SIMEOS.

Filariasis.

The *filaria sanguinis hominis*, by obstructing the lymph channels, is capable of determining various grades of anæmia, chyluria, and hæmaturia, as well as elephantiasis of a limb or of the genitals. The variety known as *filaria perstans* appears to be the causative factor in the "sleeping-sickness" of the west coast of Africa which is characterized by a lethargic state lasting for weeks and months.

DIAGNOSIS.—There is no positive clinical diagnostic sign. *Filariæ* can be found only by blood examination. The ordinary form is found in the blood only at night, hence the diagnosis based upon its absence by day would be faulty. Its width is that of a red blood corpuscle, but it is about fifty times as long. After an absence of subjective symptoms, perhaps for years after these nematode worms have infected the system, anæmia and lymphatic tumors, especially in the testicle and cord, show themselves and elephantiasis may supervene. It is not always possible to detect the presence of the parasite in even marked instances of lymph scrotum or elephantiasic enlargement of an extremity.

Though a disease of the tropics, it is said to be increasing in and about Charleston, S. C.

PROGNOSIS.—The chief danger to life is that the adult worm may fix itself in the heart. *Filariæ* may exist in the blood for years without materially influencing the general health.

TREATMENT.—Methylene blue, gr. ii., every four hours for five days.—AUSTIN FLINT.

Thymol, gr. i., every four hours, with subsequent increase of the dose.

Chyluria :

R Ichthyol..... gr. iiij.
Ft. pil. No. i. S. From two up to ten such daily.

—MONCORVO.

Guinea-worm disease, due to the *filaria dracunculus*, sets up a suppurative inflammation in the subcutaneous connective tissue. Its presence can be distinguished beneath the skin by its simulating to the touch a coiled-up string. When about to pierce the surface a vesicle forms, increasing up to 12 or 15 millimetres in diameter attended with itching; or severe suppurative inflammation may affect a larger area of skin.

The diagnosis is confirmed if the string-like coil changes its position before inflammatory changes occur.

Violent inflammation may follow rupture of the worm in the effort to secure its extraction.

Extract gradually by winding about a stick or roll of card-board, twisting a little each day.

To kill the worm and its progeny and prevent inflammation:

R. Tinct. *asafoetidæ*..... ʒ i.
S. Teaspoonful three times a day.

—HORTON.

Caution.—To be used only in adults and for a limited period.

Perchloride of mercury injections (1 to 1,000).—BOYD.

A Pravaz syringe-ful may be injected into the burrow at several different points.—EMILY.

Compresses of carbolic-acid lotion (1-15).—ROTH.

Furunculosis.

Boils are chiefly to be distinguished from multiple abscesses of the skin, having a non-furuncular origin, by the presence of a central core; and from beginning carbuncle, which is characterized by having numerous openings instead of the usual single central opening of the boil. While furuncle is frequently multiple, its lesions being scattered perhaps over various portions of the surface at the same time, the individual lesion does not flatten out and extend at the periphery, as does the carbuncle.

The term furunculosis is applied most properly to the condition of recurrent crops of boils in a given subject.

TREATMENT.—*To abort the furuncular process :*

℞ Liq. ammoniæ..... 3 i. + ℥ xx.
 Aquæ..... 3 ij.
 M. S. Teaspoonful in water three times a day.

—RANDOLPH.

In gouty subjects :

℞ Extr. colchici radialis gr. iv.
 Ft. pil. s. a. No. xii. S. One or two three times daily.

Spirits of camphor locally.—BROCQ.

During the formative period, tar water to drink and :

℞ Sulphuris sublim gr. iss.
 Pulv. camphoræ..... gr. i.
 M. For one capsule. S. Three such to be taken daily.

—ROBIN.

℞ Sodii sulphatis,
 Sodii bicarbonatis,
 Potassii sulphatis,
 Acidi tartarici,
 Mucilag. acaciæ..... ãã 10

M. S. From ten grains to a drachm daily in divided doses, in a wineglassful of water or milk.

In diabetics, strict diet and codeine or other drug to reduce sugar output.

When habitual :

℞ Sodii arsenitis gr. i.
 Syrupi simplicis 3 i.
 Aquæ..... q.s. ad 3 iv.
 M. S. Teaspoonful in water twice a day.

Apply on compress:

℞ Chloroform 30 gm.
 Essence of cloves 5-10 "
 Beechwood creosote 1-2 "
 Camphorated oil..... 50 "

—GOURINE.

Apply carbolic acid to the central point.

℞ Ichthyol..... 3 i.
 Empl. plumbi..... 3 ij.
 Empl. resinæ..... 3 i.
 M. S. As a plaster.

—STELLWAGON.

Or, unguentum diachylon (Hebra):

℞ Acidı salicylici.....	3 issa.
Empl. saponis.....	℥ iss.
Empl. diachyli.....	℥ i.
M. S. Spread and apply.	

Gangrene.

While this subject is more appropriately discussed in surgical works, we must here mention *senile gangrene* of the lower extremities, occurring chiefly in diabetics, and in which surgical measures are usually to be deferred until a line of demarcation is distinct. Amputation should be above the knee (Hutchinson) if the process involves the dorsum and sole.

Multiple gangrene of the skin occurs chiefly in hysterical girls and is often mistaken for feigned or artificially produced lesions from the use of acids and irritants. Some manifestations or stigmata of the hysteric state should be discoverable.

Disseminated infectious gangrene in infants and children subjected to unfavorable hygienic surroundings, and especially after debilitating diseases, may be accompanied by noma.

Noma may occur without marked preceding disturbance, as an ulceration about the gum and internal cheek surface with loosening of teeth, foul breath, and subsequent swelling, and dusky or livid redness, extending to the skin surface of the cheek. The hardened, waxy tissues soon show gangrenous changes and perforation may occur before death, which is not an uncommon termination. Pain is not a pronounced symptom. Measles would appear to be a predisposing cause.

Gangrene from the use of carbolic acid is reported by Czerny. This occurs from the continued use of moist dressings containing the official three-per-cent solution of the acid applied as an antiseptic for minor wounds of the extremities.

For external use :

R Bromi	℥ i.
Potassii bromidi	3 ij. + 3 ij.
Aquæ.....	℥ iv.

Mix the potassium bromide and water and add the bromine.

—J. LAWRENCE SMITH.

In infantile disseminated gangrene after varicella, vaccinia, impetigo, and accompanying purpuric manifestations:

R Acidi boracici.....	3
Sol. hydrarg. chloridi corrosivi (1-10,000).....	100
M. S. Use as wash and in bath.	

—CAILLAULT.

For treatment of noma, see "Stomatitis Gangrenosa."

Gangrene, Symmetrical.

Raynaud's disease, or local asphyxia of the extremities, occurs symmetrically after exposure to cold.

DIAGNOSIS.—The fingers or toes, ears, and tip of the nose become suddenly pale, hard, and numb, and subsequently turn black and gradually separate. At times there is severe pain. Even when the lividity does not result in the actual death of the part, the symmetry and other signs are sufficient to make the diagnosis easy. Nervous phenomena are often noted, and shock may precipitate the attack; numbness and tingling in the fingers may precede the attack for years.

It is most frequent in epileptic maniacs.—WIGGLESWORTH.

Sharp distinction between syphilitic and non-specific instances and between this affection and one depending on anatomical changes in the arteries (arteritis; endarteritis) cannot always be made. Neurotic gangrene may closely simulate it.—W. ALEXANDER.

It may often complicate hysteria.—OSLER.

PROGNOSIS is serious in the extremes of age. It is better when syphilis is an underlying cause.

DIFFERENTIATION.—

Local Asphyxia (Raynaud).

Sex: four-fifths females.

Begins with ischæmia.

Affected part becomes bloodless and white. In certain cases there is the deep, dusky congestion of a cyanosed part, with or without gangrene.

Pain may be absent or acute, and comes and goes; has no relation to position.

May precede local asphyxia.

Unaffected by seasons. In many cases all the symptoms can be brought on by cold.

Anæsthesia to touch.

Analgesia.

Temperature much lowered and unaltered by posture.

Gangrene local and limited; likely to be symmetrical.

Erythromelalgia (Mitchell).

Of twenty-seven cases two were in females.

Little or no difference in color, until foot hangs down in upright posture, when it becomes rose red.

Arteries throb and parts become of a dusky red or violaceous in tint.

Pain usually present; worse when part hangs down or is pressed upon. In bad cases more or less at all times.

Worse in summer and from heat. Eased by cold.

Sensation of all kind preserved.

Hyperalgesia.

Temperature greatly above normal. Dependency causes in some cases increase of heat, in others lowering of temperature.

No gangrene; asymmetrical.

—D. W. PRENTISS.

TREATMENT.—Electrical bath.—BARLOW.

Glonoïn in small oft-repeated doses.—F. P. HENRY.

Improve the general health of the patient; improve local circulation and nutrition; relieve the pain.—CHARLES K. MILLS.

If a history of syphilis is given, appropriate antisyphilitics.

Gastric Neuroses.

Gastralgia is one of the important forms of this class, in which the character of the pain is neuralgic and occurs independently of organic diseases when the stomach is empty. Gastralgia as a symptom occurs in carcinoma, ulcer, and the various forms of gastritis. As a functional condition it is present in neurotic females, as an accompaniment of anæmia and neurasthenia.

DIAGNOSIS is often suggested by a general tendency to neuralgic pains elsewhere.

The pain is sudden, referred to the epigastrium; it becomes sometimes aggravated periodically but almost always when the stomach is wholly or partially empty, and taking food is more apt to give relief than otherwise. Steady pressure with the flat hand may also give ease. In an acute attack the patient is doubled up, the breath comes short and quick, and there may be a sensation of impending dissolution. The face is dull, drawn with pain, and covered with cold perspiration. After lasting for from a few minutes to perhaps an hour or more, vomiting may give relief, followed by exhaustion and relaxation.

DIFFERENTIATION.—In colic the pain is referred to the region of the umbilicus, and there is frequently spasmodic contraction of abdominal muscles with rapid change of position in the pain. It is also more frequent after meals.

From the gastric crisis of tabes by the history of the case, and the fact that the pain often begins in the groin and extends up the sides to the epigastric region. The lightning-like shooting pains are also absent, and in tabes or its preataxic period such attacks bear no relation to the empty state of the stomach. In neurasthenic gastralgia a boring sensation is complained of and the pain radiates over the lower ribs to the median line.

In that which has been called by Rosenthal the depressant form, a constant dragging weight or disagreeable feeling of fulness follows the taking of food.

The neuralgic form of pain is not so intense. This is to be distinguished from the gastralgia of hysteria and that of organic disease. In the latter there is retarded digestion, while in true gastric neuroses the period of digestion remains normal. In the hysterical form the gastric pain alternates with neuralgias in other parts of the body and other evidences of hysteria are to be discovered.

From ulcer or cancer of the stomach the differentiation is

made by the pain being more diffuse and not brought on or aggravated by taking food. Prolonged and attentive study of all the general symptoms, idiosyncrasies, habits, etc., of the patient may be necessary in order to establish the correct diagnosis of gastric neurasthenia.

TREATMENT.—*Early morning gastralgia* is often relieved by eating a hearty breakfast. This of itself serves to distinguish the pain from that of gastric ulcer and gastritis.

Gastralgia of gouty origin, salicylate of colchicine, gr. $\frac{1}{32}$.
Or, colchicine, gr. $\frac{1}{32}$.

In the gastralgia of neurasthenia, rest cure.—S. WEIR MITCHELL.

If due to impotence, phosphorus, gr. $\frac{1}{60}$ in pill form.

Nervous Gastralgia.—The best treatment for purely nervous gastralgia—characterized by pain when the stomach is empty, which is immediately relieved by the ingestion of food—consists in the internal administration of arsenic. Acidum arseniosum, gr. $\frac{1}{4}$, three times daily between meals for several weeks.

A mixed diet is preferable.—SIR JAMES SAWYER.

The most generally useful drugs are codeine, chloroform, bismuth salicylate, creosote, cerium oxalate, compound spirits of ether.

℞ Sodii bicarbonat. 3 iss.
Tinct. nucis vom. ℥ xl.
Liq. morphinæ (gr. ij. to 3 i.) 3 i.
Spir. ammon. aromat. 3 iss.
Syr. zingiberis. 3 i.
Aquæ menth. pip. q.s. ad 3 viij.
M. S. 3 ss. four times a day.

—J. W. MARTIN.

℞ Morph. hydrochlorat. gr. iiij.
(or codeinæ... gr. vi.)
Cocainæ hydrochlorat. gr. v.
Tinct. belladonnæ. 3 i.
Aq. amygdalæ amaræ. 3 v.

M. S. Ten to fifteen drops every hour. When pains are very severe, three doses of ten drops each within an hour.

Or—

℞ Codeinæ phosph. gr. ½
 Bismuthi subnit. gr. v.
 Sacchari lactis gr. iij.

M. S. A dose, every two hours.

—EWALD.

Or—

℞ Argenti oxidi. gr. v.
 Extr. hyoscyami. gr. v.

M. ft. pil. No. x. S. One t.i.d. before meals.

—BARTHOLOW.

Or—

℞ Tinct. capsici 3 ij.
 Cannabis indicæ 3 ss.
 Tinct. opii deod. 3 i.
 Spir. chloroformi. 3 i.
 Spif. lavandulæ. q.s. ad 3 iv.

M. S. 3 i. every thirty minutes until relieved.

—HARE.

℞ Spir. ætheris comp.,
 Tinct. illicii,
 Tinct. rhei. ãã 3 gm.
 Tinct. nuc. vom. 1 gm.

M. S. Twenty drops at mealtime.

—POTAIN.

Caution.—The use of irritating substances, such as chloroform and Hoffman's anodyne, always endangers aggravation of the original disease.—WOOD AND FITZ.*

Liquor potassii arsenitis, gtt. i.-ii., t.i.d. continued over a considerable period of time.

If vasomotor spasm is suspected from pallor, nitroglycerin, gr. $\frac{1}{100}$, in solution or recently made tablet, by hypodermic injection.

Or—

℞ Cocainæ muriat. gr. ij.
 Antipyrin 3 iij.
 Aquæ destil. 3 i.

M. S. For hypodermic use. Ten to twenty minims.

—LANDON B. EDWARDS.

Subcutaneous injection of water over the epigastrium

Spiritus ætheris comp., ℥ x.–xx.; chloroform, gtt. iii. or iv. on sugar; Cocaine, gr. $\frac{1}{8}$ – $\frac{1}{4}$, once or twice daily.

Caution.—Should not be given at the same time with amyl nitrite, opium, or bromides. Morphine sulphate, gr. $\frac{1}{8}$ – $\frac{1}{4}$, hypodermatically.

Gastritis, Acute.

Gastritis may result from a variety of local irritants, producing inflammation of the mucous membrane. These may be toxic, mycotic, mechanical, or chemical.

DIAGNOSIS.—The symptoms leading to the diagnosis will, therefore, vary with the etiological cause, which, if known, will be of the greatest diagnostic value. Generally speaking, there are sense of fulness, gastric pain and tenderness, vomiting, perhaps of blood, fever, headache, thirst, anorexia, fulness, eructations, etc.

The symptoms of acute catarrhal gastritis will be found under the caption “Dyspepsia.”

Pseudo-membranous gastritis is a rare form accompanying infectious diseases. In phlegmonous gastritis, which is also rare, the onset is sudden, the pain severe, the fever high, followed by typhoid symptoms and subsequent collapse.

DIFFERENTIATION from typhoid by the febrile rise and its subsequent fall being more abrupt, having less marked remission; by absence of enlarged spleen and occasional presence of “fever sores.” The last sign is unreliable (Hemmeter).

PROGNOSIS is favorable.

TREATMENT.—If due to an irritant poison, including alcohol, and the stomach contents can be removed by emesis or by lavage, this should be done before the remedies used are introduced. A saline purge may also be in order. In all instances it is best to withdraw all food except perhaps broths, and small doses of milk and lime water given at frequent intervals.

In acute alcoholic gastritis, ipecac, gr. v., to be repeated every ten or fifteen minutes until emesis.

Counter-irritation over the epigastrium.

For the first few days, fluid extract of hydrastis, 3i. Repeat as necessary.

If no early vomiting:

℞ Pulv. ipecac..... 1.5
Antimon. et potass. tart..... 0.05
M. ft. chart. No. i. S. At one dose or divided.

—EWALD.

If pain is present:

℞ Codein. phosphat..... 0.05
Extr. belladonnæ..... 0.05
Ol. theobrom..... q.s.
M. et ft. suppos. No. x. S. One every hour.

—BOAS.

Or—

℞ Codeinæ..... gr. vi.
Aquæ menth. pip. ʒ iss.
M. S. 3 i. thrice daily.

Evacuate the stomach, then wash with:

℞ Thymol. gr. viij.
Boric acid. ʒ ss.
Warm water..... O i.

—HEMMETER.

In subacute gastritis:

℞ Bismuthi subnit..... 3 iij.
Sodii bicarb..... 3 iij.
Guaiacol..... gtt. x.
Syr. rhei arom..... 3 ij.
Aquæ menth. pip..... ʒ iij.
M. S. Teaspoonful in hot water.

—TUFFS.

Gastritis, Chronic Catarrhal.

Chronic dyspepsia, so-called, comes on slowly with perversion of appetite, usually bad taste in the mouth, perhaps dryness, nausea, and vomiting either after food is taken, or, especially

in alcoholics, before breakfast. Acid or acrid regurgitation, belching, precordial distress, a faint feeling before the regular food-taking periods, and a sense of weighty oppression after eating, or at times actual pain may be present.

DIAGNOSIS is based upon the greater persistence of the symptoms of acute indigestion, which are all intensified, plus the discovery of an abundance of mucus, decreased motility, and pronounced lack of absorptive power.

The stomach tube will prove a valuable aid in diagnosis. Siphonage may show absence of hydrochloric acid as early as one hour after taking food, in conjunction with an abundance of mucus. This does not exclude cancer.

DIFFERENTIATION.—Cancer is the most important condition to be eliminated. (For the early signs before a tumor can be felt see chapter under this head.)

Ulcer of the stomach is much more likely to have hæmatemesis as a symptom.

Dilatation of the stomach is to be excluded, mostly by physical signs, since the gastric secretions are quite similar in both conditions.

TREATMENT.—*For anorexia :*

℞ Strychninæ sulphatis..... gr. $\frac{1}{2}$
 Acid. hydrochlor. dil..... 3 i.
 Elix. gentianæ $\frac{3}{4}$ vi.
 M. S. $\frac{3}{4}$ ss. in $\frac{3}{4}$ ij. of water through a tube.

—HEMMETER.

Hydrochloric acid is often advantageous when combined with small doses of quinine and strychnine.

℞ Quininæ sulphatis..... gr. xxx.
 Strychninæ sulphatis..... gr. ss.
 Acidi muriat. dil..... 3 iiss.
 Tinct. cardam. co..... 3 iiss.
 Aquæ..... q.s. ad $\frac{3}{4}$ iv.
 Mix and filter. S. 3 i. in water after meals.

—WM. PEPPER.²⁰

Lavage.—Sodium bicarbonate, two-per-cent solution, facili-

tates removal of mucus; after this for last washing use clear warm water at 110°–112° F.—LOUIS BEHRENS.

Use a pint at first every morning, gradually increasing to two or three quarts (98.6° F.). Glauber's salts, asepsin, or boric acid may be used.—WEBSTER.

Bitter tonics in chronic gastritis :

℞ Tinct. nuc. vomicæ 3 ij.
Resorcin resublim..... 3 ij.
Tinct. gentian..... 3 v.
Syr. simplicis q.s. ad 3 v.
M. S. Tablespoonsul every two or three hours.

℞ Tinct. nuc. vomicæ..... 3 i.
Decoct. condurango..... 3 iv.
M. S. Tablespoonful half an hour before meals.

—EWALD.

To dissolve the mucus and destroy microbes of fermentation, lavage and—

℞ Hydrozone..... 3 i.
Aquæ destill..... 3 iv.
M. S. Drink while stomach is empty once daily.

The hydrozone may at first produce acrid sensations in the stomach, but as the irritated gastric surface improves in tone under its influence this will pass away and sensitiveness to its action will subside. When necessary the amount of hydrozone may be reduced until the stomach becomes more tolerant to it.—H. T. WEBSTER.

In the hyperpeptic form, with abundant secretion without dilatation, prescribe a course of Carlsbad water, unless there be heart disease or phthisis or the subject be feeble or aged. A formula for an artificial Carlsbad, for home use, is the following:

℞ Sodii sulphat..... 2.5–3 gm.
Sodii bicarb..... 2–2.5 gm.
Sodii chloridi 1 gm.
Aquæ destil. 1 litre.
Sterilize or consume while fresh.

—G. HAYEM.

Gastro-Enteritis.

Intestinal catarrh involving the stomach in infancy is rarely to be distinguished from cholera infantum.

DIFFERENTIATION.—Nervous disturbances may be so pronounced that tuberculous meningitis is thought of.

TREATMENT.—When milk is distasteful and fluids are vomited, give somatose by the mouth or rectum, with the addition of a little salt to a solution in milk or water.

For children with fever :

℞ Hydrarg. chlor. mit gr. i.-ij.
Sacch. lactis q. s.

In milk.

with addition of beta-naphthol, gr. iii.—GRASSET.

℞ Beechwood creosote ℥ iiij.
Dissolve in alcohol ℥ xv.
Add mucilage ʒ iiij.

M. S. For children a teaspoonful, for adults a tablespoonful, immediately before each meal.

—ZAUGGER.

In acute gastro-enteritis of children, bismuth is especially efficacious when combined with colombo:

℞ Calumbæ radices 1 gm.
Make an infusion with water ... 75 "
Filter and add :
Bismuth subnitrat 3 "
Syr. aurant. cort. amar 15 "

M. S. Teaspoonful every two hours.

—TRABAUDT.

In entero-colitis of infancy :

℞ Cupri arsenit. gr. ʒss
Aquæ ʒ iv.

M. S. Teaspoonful every fifteen minutes.

—LARRABEE.

For acute infectious gastritis in infants :

℞ Cupri arsenitis gr. ʒss-ʒss
Sacchar. lact ʒ i. + ʒ i.

M. div. in chart. No. xvi. S. One powder hourly, and when improvement begins give one powder every two or three hours.

—KRÜGER.

Wash out the stomach with a two-per-cent solution of boric acid.

℞ Calomel gr. $\frac{1}{2}$
 Opium gr. $\frac{1}{16}$

M. S. Give in a spoonful of warm water every two hours till five or six doses are taken.

For obstinate vomiting :

℞ Creosote gr. $\frac{1}{2}$
 Extr. opii aq. gr. $\frac{1}{16}$
 Sugar gr. xx.
 Aquæ fœnic. 3 iiss.
 Aquæ destil. 3 i. + 3 ij.

M. S. A dessertspoonful for a child of two years every two hours. Older children a tablespoonful.

Or, resorcin up to gr. xx. in twenty-four hours.

For profuse diarrhœa, bismuth subnitrate or salicylate, gr. v.-viii., with a little opium.

In exhaustion, salt solution subcutaneously.—DEMME.

As intestinal antiseptic, salol, gr. i.-v. Or, naphthalin, gr. i.-ii., in mucilage, milk, or malt extract to an infant of one year, every one, two, or three hours.

As an astringent, tannigen, gr. vi.-x.—MONCORVO.

In convulsions of gastro-intestinal origin, colic, greenish stools, and vomiting, frictions of chamomile oil to the abdomen. Injections or lavage to free the intestines. Hypodermoclysis of normal salt solution.—NAUWELAERS.

Irrigate the stomach and the bowel with lukewarm water and flush the colon and rectum till the contents flow away clear. Never employ antipyretics, as antipyrin and quinine or other similar drugs, but resort to hydropathic measures, relying on the warm bath gradually cooled from 90° to 70°. Duration of bath five minutes, to be repeated every few hours if necessary. Place an ice bag on the top of the head, following the bath, and place the patient in a cool room, if we cannot have the child immediately removed to cool sea air. Unless it be a nursling, proscribe milk; and if a nursling then discon-

tinue the breast at least one-half day to give the stomach absolute rest. Administer beta-naphthol bismuth in doses of five to ten grains to a child of one year every two, three, or four hours, depending on the nature of the case. If vomiting persists and cannot be controlled by medication, resort to rectal feeling, and administer the bismuth in a small suppository, also per rectum, but invariably doubling the dose required per mouth. Warn against the danger of administering alcohol, and any wine or beer. Cold sponging to check the perspiration, with equal parts of alcohol or water, or use bay rum. Where cyanosis and very cold extremities exist, resort to hot mustard baths.—LOUIS FISCHER.

Gastropptosis.

Sinking of the stomach, partial when the lower border or complete when the upper also reaches below the normal. Frequently associated with enteroptosis. It is not a morbid entity, but predisposes to other conditions.

The displaced stomach is a neurotic stomach, and subject to a variety of sensory, motor, and secretory neuroses (pains, spasms, hyperacidity).

In the great majority of cases, the gastric juice shows normal or increased digestive power.

The atony and neurasthenia progress hand-in-hand, and neither can be treated alone.—GEORGE R. LOCKWOOD.

TREATMENT.—Seek to increase intra-abdominal tension and to correct errors of secretion and motility.

Apply a well-fitting abdominal bandage, laced from below, after forcing up the intestines. Electricity, exercise, diet, deep breathing.

Drugs sedative to the stomach are most useful. Taka-dias-tase has been found beneficial. See "Stomach, Dilatation of," p. 742, and "Enteroptosis," p. 301.—CHAMBERS.

Glanders.

Farcy or equinia gives symptoms in from a few days to three weeks of the time of inoculation. There is fever with prostration, and vague myalgic and articular pains are complained of. Later on severe rigors with profuse sweating and a typhoid condition come on.

DIAGNOSIS.—A discharge from the nostrils, at first catarrhal and often purulent, and perhaps bloody and of offensive odor, is the most characteristic manifestation. In the acute form this occurs early; in the chronic, late. Characteristic signs upon the skin surface are in the form of scattered groups of red papules, which soon reach the size of bird shot, changing to a yellow color; later on pustules may develop if the papule first becomes a vesicle, and then the lesions may resemble variola. Subsequently superficial ulceration may occupy the site of these groups, or gangrenous spots may form. The diagnosis is facilitated by the subject being one who is much engaged with horses, from which animals the disease is contracted. Diagnosis is difficult only when many of the skin and mucous membranes changes are still lacking. In veterinary practice injections of malleine are resorted to for diagnostic purposes, giving a characteristic fever curve. In man trial of the same has been made, but as yet with no positive results.

PROGNOSIS is serious; the more so the more acute the initial signs.

TREATMENT.—Quinine seems to be the only drug of much value. Efforts must be directed toward maintaining the patient's strength.

If the point of inoculation is seen early it should be acted upon with destructive escharotics. As abscesses form they are to be opened; internal antiseptics, iodine, arsenic, strychnine.

Vaccination with culture fluid has been employed only in horses. Antistreptococcic serum (not yet sufficiently experimented).

No drug yet tried has any marked specific effect on the disease.—DURHAM.

There are no known remedies which have any control over glanders. If the case be seen early, the points of inoculation should be thoroughly destroyed by excision and caustics.—WOOD AND FITZ.*

Glycosuria.

Besides existing as a permanent symptom of diabetes, glycosuria is likewise symptomatic of a variety of affections, which should not readily be confounded with diabetes proper. Certain subjects of gout or other forms of lithæmia, when suffering from obesity of long standing and often subject at the same time to gall stones, as well as many debilitated persons of advanced age, are found to pass sugar either habitually in small quantities, or paroxysmally in perhaps larger amounts. This may go on for years without having any marked influence *per se* upon the general health.

Unless the diet is too rigidly restricted, under a misapprehension of the cause and requirements of the case, the prognosis is good so far as the continuance of life goes, although sugar may persist. The one point which makes the condition important is that it should not be treated as diabetes, but should lead to detection of the underlying cause, to which treatment may more properly be directed. See also "Diabetes."

Goitre.

Bronchocele or simple goitre may exist in various degrees of development, upon one or both sides, so small as scarcely to direct notice, or of such a size as to cause great inconvenience

and deformity. Again, the enlargement may be poststernal and be perceptible only during deglutition.

DIAGNOSIS.—Symptoms resulting from pressure upon the vessels and nerves are the same as from any other abnormal growth in this region.

DIFFERENTIATION.—It is distinguished from all other tumors chiefly by the fact that the enlarged thyroid takes an upward motion when the patient swallows.

TREATMENT.—Interstitial injections of iodine. The official tincture is employed. The irritating action of the alcohol and the specific action of the iodine are supposed to concur in the cure. The dose is half a syringe-ful the first time; afterward a syringe-ful (cubic centimetre).—DUGUET.

The above is often uncertain, and generally useless and in tumors of large size slow.

Enucleation takes the first rank.

Cachexia strumipriva is not to be feared.—HACHE.

Caution.—Iodine by parenchymatous injection has resulted in many accidental deaths.

When iodine treatment has not succeeded glycerin extract of thyroid body, one to one and a half teaspoonfuls (each teaspoonful representing 30 cgm. of the fresh organ), given daily.—CABANNES.

℞ Acidi arseniosi..... gr. $\frac{1}{4}$
 Ergotini..... gr. i.
 Pilulæ ferri bromidi (Fr. Cod.) gr. iv.
 M. ft. pil. No. i. S. One to be taken three times a day after food.

—RAMSAY SMITH.

Parenchymatous injections of iodoform.

℞ Iodoform..... 1
 Ether..... 5
 Olive oil..... 9
 M. S. To inject.

Caution.—This must not be exposed to sunlight.—MOSENG.

℞ Iodoform..... 1 part.
 Sulphuric ether,
 Olive oil..... 7 parts.
 M. S. ℥ xv.—3 i. by injection.
 Repeat every two to five days.

—GALEE.

Caution.—Inject slowly, standing behind the patient and pressing the gland back against the spinal column, plunge the needle in deeply, avoiding cutaneous veins.

To ascertain if the needle has entered the gland, let the patient swallow; if it has entered, the needle will be carried upward and the syringe will take a downward direction.—KAPPER.

In intractable goitre remove the patient to a region in which the disease is not common. Complete disappearance of the tumor may result.—DOCK.

Cataphoretic treatment by tincture of iodine, the cup electrode being attached to the positive pole and a current of six to eight milliamperes being used. The application is repeated daily.—HUNTER M'GUIRE.

Thymus gland has been used to a limited extent with success. Thymus can be given for a longer time than the thyroid without causing disagreeable symptoms.

℞ Iodi 1
 Potassii iodidi 5
 Aq. destil..... 100
 M. S. For external application.

Caution.—This must not be exposed to sunlight.

℞ Zinci sulphat.,
 Ac. salicylici,
 Iodoformi..... 3 ij.
 Ac. boric..... 3 iij.
 Ac. oleic 3 viij.

Keep at boiling heat for several hours, pour off the liquid, and bottle when cold. Apply by friction twice daily until slight desquamation occurs; after this once daily.

—CHARETTE.

Goitre, Exophthalmic.

The symptom complex to which Graves called attention, likewise called Basedow's disease, consists in excitation of the heart beat, followed by swelling of the thyroid body, pulsation in the arteries of the neck, and protrusion of the globes of the eyes.

Besides the rapid heart action, which is an almost constant phenomenon, there may be attacks of palpitation, attended or not with murmurs and exaggeration of the heart sounds.

DIAGNOSIS.—While of slow development, a sudden aggravation of all or some of the symptoms leads the patient to consult the physician. Although it is a simple matter to distinguish those instances in which the tripod—goitre, exophthalmos, and rapid heart action—is present, it is not so easy when only one of these symptoms is prominently present.

It is possible for a tachycardia, the reason for whose existence for many years has not been understood, to have joined to it later on the characteristic bulging eye and the swelling of the thyroid gland, thus completing the picture. The exophthalmos may be absent in any given case.

Among the early signs are especially to be noted a lack of combined action in the eyelids and brow when the globe is suddenly carried upward, pulsating movement in the lids, and incomplete closure of the palpebral fissure. Photophobia, or double vision, may also be an early sign. The retardation in the movement of the upper lid is called Graefe's sign. The subjects are irascible, excitable, melancholic, hysteric, or show a tendency to become epileptic.

Choreic movements, associated with a tremor which is said to be rarely absent from the first, and characterized by a rapidity of vibration, are of the greatest diagnostic importance in the absence of hysteria. The myograph shows eight to nine

oscillations as against five plus in paralysis agitans and seven in poisoning by mercury.

Möbius has found that increased moisture of the skin is **seldom** absent. Vitiligo or bronzing of the integument is also **likely** to occur.

Among other signs more or less constantly found are **gastro-intestinal** and dyspeptic symptoms, neuralgias, paræsthesias, **diminished** resistance to galvanic currents, glycosuria, **irritability** of the bladder, and neurasthenic symptoms. One or more **of these** may be present in any instance. In children the **symptoms** are usually the same except that tremor and Graefe's sign **are** usually absent.

DIFFERENTIATION.—From simple goitre time alone may be **required**, but it is so common to find subjects of Graves' disease **neurasthenic** that, in the absence of signs of neurasthenia, and **if** palpitation is not a marked feature of the case, it may be set **down** as one of simple goitre. It must be remembered, **however**, that an enlarged thyroid may precede other symptoms by **a** number of years.

Guttman makes the point that double systolic murmur is **characteristic** of the exophthalmic form. When tachycardia **is** the only symptom, its distinction from the essential form lies chiefly in the fact that the latter is of paroxysmal nature; the **heart** beating at a normal rate in the intervals. In some **instances** showing this same form of palpitation, the beat reaching **perhaps** the very high point of 200 to 250 or more to the minute, it may be necessary to await the development of other **symptoms**.

PROGNOSIS.—The greater the size of the thyroid and the **prominence** of the globes, according to Gowers, the less likelihood **is** there of recovery. The course is essentially chronic, extending **over** many years. A few instances ending acutely in recovery **or** death have been reported.

About an equal number of instances terminate respectively

in death, in more or less complete recovery, and in improvement.

In children the prognosis is rather favorable.

TREATMENT.—*Thymus-gland feeding* and glycerin-extract administration have given some favorable results in the experience of Owen, Wood, Cohen, and others.

Thymus tabloid, gr. iii., is said to be equal to gr. viii. of the gland. Increase gradually to nine tabloids daily.—C. F. NAMMACK.

Thyroid is indicated in non-cystic goitres and exceptionally is of advantage in special instances of exophthalmic goitre.

Caution.—Extreme care is necessary in treating the latter affection.—LAPINÉ.

In some instances, under the use of thyroid there is a rapid increase of all the symptoms.—H. L. WINTER.

Inject into the tumor 1 c.c. of a solution of iodoform in ether every eight days.—PITRES.

Based on the supposition that there is already a superabundance of thyroid juice in the blood, the treatment by counter-irritation over the site of the thyroid gland has been advocated by Dr. G. R. Murray of England. This treatment consists in the daily application of mercurial or belladonna-iodine ointment, and is often very efficacious.—O. H. HOLDER.

For persistent painful heart action :

R Tr. aconiti rad.,
 Nitroglycerini (1 per cent. solution)..... $\overline{\text{ss}}$ $\overline{\text{m}}$ i.
 Ext. cacti grandiflor $\overline{\text{m}}$ x.
 Aquæ dest.....q.s. ad 3 i.
 M. S. This dose to be taken upon rising, at noon, and at bedtime.

—JAMES J. CROOK.

For the tachycardia, digitalis, strophanthus, convallaria; while bromides are useful for their sedative action.

Sodium phosphate, gr. xxx.-xl., for daily dose.—TRACHEWSKI.

Glycero-phosphate of sodium, gr. xx., three or four times daily.—M. ALLEN STARR.

The faradic current. Strong currents may be applied directly to the gland.—PUTNAM.

The cure of associated peripheral lesions, as the removal of polypi, intranasal cauterization, the cure of uterine disease, intestinal atony, chronic constipation, etc., has been followed by disappearance of the symptoms of Basedow's disease.

To lower vascular excitement :

℞ Pulv. ipecac gr. vi.
 Pulv. digitalis gr. iv.
 Ext. opii gr. ss.
 M. et ft. pil. No. xii. S. From four to six pills a day.

—DIEULAFOY.

To lessen nervous excitability, hydrotherapy. Cold hip baths, warm or cold foot baths, and uterine douches are of value in menstrual complications.

To calm the palpitations, tincture of veratrum viride, gtt. ii.-v. four times a day, extended over several months.—G. SÉE.

For intestinal antiseptis :

℞ Phenol bismuth 3 iv.
 Sodii benzoat.,
 Bismuthi subcarbonat 3 ij.
 M. div. in capsulas No. xlviii. S. Two an hour after meals.

Such drugs exert a specific control over the vascular and cardiac disturbances, in marked contrast to the inefficiency of cardiac sedatives.

When there are dyspnœa and palpitation, tincture of belladonna, or tincture of aconite, p.r.n., night and morning.—W. H. THOMPSON.

Heart tonics, such as digitalis or strophanthus, do harm, causing headache, dizziness, etc.

Thyroidectomy should be resorted to only in extreme cases.—RALPH R. SPENCER.

Electricity.—Galvanism is superior to faradism; weak currents are sufficient, two or three milliamperes; each application should last six minutes; applications should be made two or three times a day. The anode should be placed on the back of the neck, over the seventh cervical vertebra; the cathode should be moved up and down the side of the neck, from the mastoid process along the course of the great nerves.

Galvanism to the sympathetic and vagus. The strength of current is regulated according to the tolerance of the patient, the amperage depending entirely upon the sensation of each individual.

Caution.—Avoid too strong currents, too long séances, and the faradic current, which overstimulates.—ROBERT NEWMAN.

R̄ Tinct. strophanthi..... ʒi
S. Gtt. viii.-x. three times daily.

It may even be carried as high as twenty or thirty drops by gradual increase of one or two drops daily.—E. D. FERGUSON.

Antipyrin, gm. 2-3 daily.—HUCHARD.

Unless the patient will abstain from meat and take milk instead, little improvement can be expected. The milk, however, should be fermented, as in matzoon or kumyss. A purgative dose of calomel should be given once a week.—W. H. THOMPSON.

General treatment including remedies directed against the anæmia often acts well.

Tincture of fucus vesiculosus, gtt. xxx. three times a day, has been recommended.

Basedow's disease in childhood :

R̄ Strontii bromidi..... 6 gm.
Strontii iodidi..... 12 "
Aq. destil..... 40 "
Aq. menth pip..... 20 "
Syr. menth. pip..... 20 "
M. S. Teaspoonful three times daily.

—SOCQUART.

Gout.

Gout is either acute and transient, or chronic and persistent. It is a disease of adult life (rarely seen in children), affecting by preference the smaller joints and one at a time. In acute gout there is evidence of intestinal derangement, portal congestion, and nervous disturbances, with dry and unperspiring skin.

DIAGNOSIS.—The seizure is sudden, occurring often at night or in the early morning. The metatarso-phalangeal articulation of the great toe is that most frequently affected. The pain is extreme and the skin over and about the affected region is red, tense, œdematous, hot, and shining, and pits upon pressure.

The symptoms, mostly marked in plethoric individuals, may comprise fever, restlessness, insomnia, and at times a critical perspiration, which may attend a morning remission.

The duration of the acute attack is usually brief under appropriate medication, but recurrences may be predicted. Desquamation follows the swelling. Chronic gout applies to the terminal changes occurring in joint structures; the attacks are frequent, pain and fever are much less pronounced, but the articulations become stiff, enlarged, and at times immovable. When chronic from the start the patient is usually otherwise debilitated.

If tophi or deposits about the joints are not present, the diagnosis hangs upon the history of preceding attacks and characteristic changes in the blood and urine. When chalk-like deposits have taken place they are recognized by their superficial character and by showing a lesser resistance than do the excrescences of rheumatoid arthritis. Marked flexion of the first phalanx of the middle finger is looked upon by Paget as pathognomonic.

Suppressed gout, with various symptoms independent of

It has been found that the tendency to recurrent cardiac attacks and the frequent occurrence of pulmonary embolisms and pulmonary infarctions in gouty subjects are almost no other than a result of the disease.

The great tendency of the disease to an affection of the mucous membrane of the intestinal tract, and especially the respiratory tract.

Arterial disease is common and arterio-sclerosis is frequent. A large number of cases of the disease are found in the lower extremities. In the upper extremities there is muscular atrophy. All patients with gout should be properly treated and the disease should be properly treated.

Gout is more common in America than the European countries.

Diagnosis.—The acute variety must be distinguished from the chronic variety which is a disease of youth, affects the joints of the upper limbs and is attended with free permeability of the blood vessels and the fact that the acute variety is more common than the latter while they do not generally affect the joints.

Chronic arthritis is more likely to be confounded with the acute variety than with gout, the changes being more marked in the larger articulations. Still the deformity resulting from the chronic condition can be quite similar in appearance.

The Roemer's rays clearly show in some instances the difference between the spicule-like deposits in gout and exostoses at the margins of articular surfaces in arthritis deformans.

Dupuytren's contraction may be mistaken for gouty flexion of terminal phalanges without marked gouty signs. It is the rule in gout that the deformities are asymmetrical and unequal on the two sides.—E. REYNOLDS.

Prognosis.—In otherwise healthy individuals of middle age,

the prediction may be made that suitable remedies will give prompt relief from acute symptoms and that under suitable restrictions as to diet and mode of life the danger will be minimum. In those of advanced years and in otherwise debilitated subjects chronic gout is to be looked upon with great apprehension, because of the marked tendency to heart and kidney complications, vascular changes leading to apoplexy, and the intercurrent of pneumonia, diabetes, etc. Gout is curable, but some of its results are not.

TREATMENT. *In acute attack* opium must be our chief reliance for the relief of pain. An aperient should be given at once, followed by a saline and a mixture containing alkalies, and colchicum, according to the indications. It is possible to cut short an acute attack by giving drachm doses of wine of colchicum seed until free purgation.

Colchicum and alkalies occupy the first place, though the salicylic group of remedies is not without its value.—EWART.

Colchicum is better than salicylates for the Sydenham type of English gout, which is rare in America.—H. C. WOOD.

Hygienic Measures.—Hygiene is of course important, not only as a prophylactic but in treatment of the prolonged attacks. The alimentary régime is probably the most important of these; still the amount of exercise, of brain work, the patient's dwelling, clothing, etc., must all receive careful attention.

Diet.—There is no diet for gout; it is diet for the individual.

Red meat in some subjects will precipitate an attack, in others it alone will effect a cure.—WOOD.

A rational mixed diet is best, avoiding excess. Avoid asparagus.—LUFF.

Control the diet, enjoin exercise, give natural mineral waters.—GARROD.

Avoid sweets, fermented liquors, potatoes, and do not overtax the digestion with carbohydrates.—L. F. BISHOP.

Patients do best on azotized and starchy food, but some cannot take the latter.—W. H. DRAPER.

Thin beefsteak free from fat, boiled in water. The whites of two to four poached eggs. A thin slice of oven-toasted bread with each meal. No fluids at meals. No alcohol.—W. ARMSTRONG.

Breakfast.—A selection may be made from the following articles of diet: Porridge and milk, fresh fish, fat bacon, eggs, tea infused for three minutes and then strained from the leaves.

Lunch and Dinner.—Whiting, sole, turbot, and plaice. Meat should be taken at only one meal, and then in moderate quantity. Two vegetables and in abundant quantities. Stewed fruits or baked apples every day. One tablespoonful of whiskey, freely diluted with an aerated water, may be taken at lunch and dinner.

Exercise up to a point short of fatigue and discomfort should be taken. Cycling is an excellent exercise for the gouty, since it furnishes good muscular movement in the open air without the gouty joints having to bear the weight of the body.

If there be any cure it is exercise. Keep it within the point of causing exhaustion, gradually increasing. Bicycle exercise.—H. C. WOOD.

For acute gout, the indications for colchicum are fever, tenderness, decided sweating, increased thirst, very concentrated urine, accelerated breathing, and overaction of the heart.—SCHULZ.

In inveterate forms, free purgation. Then in cupful dose two or three litres of water at 38°–48° C., pure or acidulated with lemon juice (half a litre before each meal).

Hydrotherapy both internal and external, as well as massage and electricity, will all have their fields of usefulness in particular instances. A weekly Turkish bath is an agreeable and most successful method for sweating out hereditary taint.

Salt bath each morning followed by brisk friction with bath towel.

In subjects of chronic lead poisoning, hot and vapor baths. Sulphur baths here contraindicated.)

Potassium or sodium iodide if tolerated.

In chronic goutiness or in the intervals of acute attack, the most important measure is the use of mineral baths, with massage applied directly to the joint affected with a low grade of inflammation.—C. C. RANSOM.

℞ Hydrarg. chloridi mitis,
Aloes,
Ipecacuanhæ pulv.,
Ext. colchici rad. ʒss 3 i.
M. Divide into sixty pills. S. One three times daily. —WHITE.

Or—

℞ Ext. colchici radialis,
Ext. aloes,
Pulv. ipecac.,
Hydrarg. chlor. mitis ʒss gr. i.
Ext. nucis vomicæ. gr. ʒ
For one pill. One every three or four hours until purgation ensues.
—A. L. LOOMIS.

Or—

℞ Vini colchici sem. ʒss.
Potass. iodidi ʒ ij.
Liq. potassæ ʒ iiss.
Tr. zingiberis ʒ ij.
M. S. ʒ i. twice daily in warm water.
—HODGSON.

Or—

℞ Lithii benzoatis ʒ ij.
Aquæ cinnamomi ʒ iiss.
M. S. ʒ i. in a wineglass of water every four hours.
—JACCOUD.

In acute form :

℞ Vini colchici sem. ʒ iiij.
Spt. ammon. aromat. ʒ xiiij.
M. S. ʒ i. every three hours.
—BARTHOLOW.

In gouty diathesis with symptoms of nephritis:

℞ Extract of stigmata of maize..... 3 iss.
 Benzoate of sodium,
 Carbonate of lithiumāā gr. xlv.
 Oil of anise..... gtt. iij.
 Divide into sixty pills. S. One t.i.d. before meals for twenty days in each month.

—HUCHARD.

℞ Colchicine..... gr. $\frac{1}{4}$
 Quininæ muriat gr. iij.
 Morphinæ muriat..... gr. $\frac{1}{4}$
 For one pill. S. One pill every four or six hours.

—WOODBURY.

℞ Tr. stramonii 4 parts.
 Tr. colchici sem..... 6 "
 Tr. guaiaci 60 "
 M. S. Teaspoonful three times a day in milk.

—GAYLE.

Colchicine-methyl salicylate, 0.20 gm., in capsule, p.r.n.—
 TOBIAS.

The best formula is:

℞ Tinct. colch. sem..... 1
 Alcohol..... 10
 M. S. Twenty to forty drops during the day.

—SCHULTZ.

Tincture of colchicum in ℥ v.—xv. at dose will give good results.

Caution.—Avoid when heart's action is exceptionally feeble.
 —GARROD.

In robust full-bodied men:

℞ Vini colchici 3 i.
 Potass. iodidi gr. x.
 M. S. For a dose; to be repeated three times daily until brisk purgation.

—MURRELL.

Or—

℞ Ext. digitalis..... gr. iiss.
 Quininæ hydrobrom..... gr. xxvij.
 Colchici sem..... gr. viij.
 M. ft. pil. No. xii. S. One morning and night.

—BECQUEREL.

Or—

℞ Magnesii sulph ʒ ij.
 Potass. bicarb gr. xv.
 Tr. colchici sem ℥ x.
 Infus. buchu ʒ i.
 Ft. haustus. S. To be taken every four or six hours, followed by a large draught of water, not too cold.

—FOTHERGILL.

In chronic :

℞ Lithii citratis,
 Magnes. carb āā ʒ i.
 M. div. in cht. No. vi. S. One twice daily.

Local :

℞ Lithii carb. vel citrat. ʒ v.
 Aq. dest. ʒ xx.
 M. S. Apply by means of lint, especially when skin is unbroken.
 —GARROD.

Or—

℞ Veratrinæ. ʒ i.
 Adipis ʒ i.
 M. S. Apply to painful joint at onset.

Caution.—Do not use if skin is broken.—TURNBULL.

Or—

℞ Sodii bicarb.,
 Tr. opii. āā q.s.
 M. ft. sol. sat.

Apply on absorbent cotton and cover with oil silk or retain with bandage.—WOOD.

Or, lint soaked in a strong solution of nitrate of potassium, carbonate of sodium, or iodide of potassium often gives speedy relief.

Petroleum is much used in Russia as a local application.

℞ Salicylic acid gr. lxxv.
 Alcohol (90 per cent) ʒ i.
 Oil of hyoscyamus,
 Castor oil āā ʒ ij.
 Essence of wintergreen ℥ xx.

Apply as a saturated compress over the painful part morning and night.—DETTINGER.

Half an ounce of iodide of potassium dissolved in half a pint of rectified spirit (methylated spirit is used in hospital practice); then one ounce of soap liniment is added, and, finally, one-half drachm each of oil of cajuput and oil of cloves. A piece of lint soaked in this mixture is wrapped around the affected part, covered with protective dressing, and kept in place by a bandage. The inflammation usually subsides in from twelve to twenty-four hours.—MURRELL.

℞ Ess. terebinthinæ	15
Alcoholis camphorati,	
Tinct. saponis	℥ 45
Tinct. cantharidis.....	4
Ft. linimentum. S. For external use.	

—RIBEIRO.

Hot dry air, ranging as high as 320° F. or higher, for forty to sixty minutes, applied by means of a cylinder, in gout as well as in various chronic lithæmic conditions.—A. GRAHAM REEDE.

Or by means of the Tallman-Sheffield apparatus.

In gouty affections of heart, digitalis and strophanthus are preferred to all other heart tonics.

Caution.—Use salicylates, colchicum, and potassium salts with careful oversight.

Lithium salts are best avoided because of their irritating action on the alimentary canal. Opium should be used as little as possible.

Do not attempt to call forth an attack by baths, for fear of unfavorable action on heart.—SCHOTT.

Furunculi in the Gouty.—Gouty people are often attacked by successive crops of boils. Treat such cases by the internal administration of colchicum. Locally, apply strong tincture of camphor.—BROCQ.

Gout of the intestines is often indistinguishable from typhlitis. Colic, enteralgia, and enteritis are often of gouty nature.

Sodium salicylate, gr. xv., every three or four hours, along with alkaline salts of sodium or potassium.—HAIG.

Gastralgia in the gouty :

- ℞ Chloroform water ʒ ij.
 Syrup of orange ʒ i.
 Simple syrup ʒ i
 M. S. A dessertspoonful every fifteen minutes until the pain is relieved.

—DUJARDIN-BEAUMETZ.

Visceral gout, without articular symptoms within twenty-four hours, is to be treated at once with colchicum and the joints usually affected are to be blistered.—JACCOUD.

Tophi, being in all respects the equivalent of foreign bodies, may be removed as such by means of surgical procedure (curettage) in the interval of attacks.

As a prophylactic :

- ℞ Acidi lactici ʒ x.
 Aquæ ʒ x.
 M S Half to one teaspoonful each morning with two, three, or four glasses of water.

Continue for three weeks, stop for a week or two, and begin again, keeping up treatment for months and even years.—BERINGER-FERAUD.

To avert recurrence, or when in the attack there is little fever, tinct. guaiaci ammon. in dose of teaspoonful for an indefinite time, as it is harmless.—SIR A. B. GARROD.

- ℞ Guaiaci gr. x.
 Mellis ʒ i
 M. ft. confect S. ʒ i.-ij. immediately after each meal.

—MURRELL.

We may almost always prevent the painful attacks in chronic gout and dissolve the deposits of biurates in the joints by combining the use of lycetol with proper régime. This drug has

the uric-acid solvent properties of piperazin joined to the diuretic action of tartaric acid.—HENLEY.

Galvanism.—To increase nourishment in the diseased tissues, and to medicate locally, place the gouty joint in a two-per-cent lithium solution in which the positive pole rests, while a broad negative electrode is applied elsewhere. A current of 120 to 200 milliampères is employed.—GUILLOZ.

Laville Gout Cure.—According to the *National Druggist* this proprietary remedy is said to contain quinine, cinchonine, colocynthin, lime salts, coloring matter, alcohol, water, and port wine.

Hæmophilia.

The hereditary predisposition to bleed upon the occurrence of slight trauma, and also spontaneously, shows signs, as a rule, before the second year of life. It may declare itself simply as a tendency to the production of ecchymotic spots upon the skin, by a tendency to hemorrhages of mucous membranes, or by internal hemorrhages and the occurrence of joint affections.

Painful inflammation of the knee, elbow, ankle, or shoulder especially may result in deformity.

DIAGNOSIS.—Hemorrhage without cause, especially when a family history of “bleeders” can be obtained, makes the diagnosis easy. The members of a family thus affected are usually those of the male sex, the disease being transmitted through the females to their own male offspring; while they themselves escape.

Males are more subject than females in the proportion of 11 to 1.

PROGNOSIS.—Out of one hundred and fifty-two boy hæmophiles eighty-one died before the seventh year.—GRANDIDIER.

TREATMENT.—Glycerin extract of red bone marrow.

℞ Acidi gallici 3 ss.
 Acidi sulphurici diluti..... ℥ xl.
 Tinct. opii deodorati ℥ xx.
 Infus. digitalis 3 ij.
 M. S. Two teaspoonfuls every three hours.

—ROBERTS BARTHOLOW.

When much blood is being lost inject around the seat of bleeding, at from three to six different points, a hot saturated solution of tannic acid.

Also for general hæmostatic effect, strychnine, gr. $\frac{1}{20}$, hypodermatically.—H. C. HOWARD.

As a prophylactic before surgical operation chloride of lime to render the blood more coagulable; camphor and turpentine to increase the white corpuscles.—TREVES.

℞ Calcii chloridi 40
 Aquæ destil. 100
 Teaspoonful in a glass of water.

—WRIGHT.

Intravenous injections of hot saline solutions, employing a nozzle of glass or hard rubber, such as undertakers use in embalming. This can be attached to the tube of any fountain syringe.

In renal hæmophilia, absolute rest in bed. Ice bag over the kidney region. Sodium sulphate, gr. i., every hour, and—

℞ Hydrastinæ hydrochlor. gr. iv.
 Ergotol 3 ss.
 Tr. opii deodor. 3 ss.
 Glycerin 3 i.
 Aquæ menth. pip. q.s. ad 3 iij.
 M. S. Teaspoonful every four hours.

Subsequently liq. ferri mangan-pepton, 3 i., in milk twice daily.—W. J. ROBINSON.

Inject upon the bleeding wound a few grams of fresh blood, immediately after it has been taken by a Pravaz syringe from the vein of a healthy subject. This coagulates in a few minutes and the hemorrhage, after the application of a light bandage, ceases permanently.—BIENWALD.

Pack a bleeding cavity with gauze soaked in perchloride of iron and give calcium chloride in dose of 1.30 gm. every four hours.—CLIFFORD PERRY.

In bleeding gums, purpura, and metrorrhagia, thyroid extract seems to exercise an influence on the plasticity of the blood.—DÉJACE.

Hæmothorax.

The accumulation of pure blood in the pleural cavity is rare excepting as the result of injury or rupture of an aneurism or blood-vessel.

DIAGNOSIS is made by the acute anæmia, which accompanies the signs of fluid in the chest. Bloody sputa may point to the lungs as the source of the hemorrhage.

PROGNOSIS.—If the patient survive the injury and no complication ensue, absorption may be expected.

TREATMENT.—Keep the patient at absolute rest and apply the cold-water coil or cracked ice in a bag to the chest. Morphine hypodermatically in sufficient dose to prevent coughing. If subsequently the amount of fluid interferes with respiration, enough may be drawn off by aspiration to give the required ease.

Hæmorrhoids.

Piles are usually described according to their implication of the external or internal portion of the lower gut. The internal are those which originate in and are covered over with mucous membrane; the external those which habitually protrude.

DIAGNOSIS should always be based on inspection.

DIFFERENTIATION.—Painful, itching, and hemorrhagic disorders in the anal region are all too apt to be called piles, and very often erroneously. Not only are pruritus ani, prolapsus, fissure, fistula, warty and even malignant growths, as well as

hemorrhages from various causes, often regarded as piles for a long time by the patient, but they are not infrequently so regarded too by the careless physician.

In pruritus there is an absence of tumor and of hemorrhage.

Prolapsus presents a cone-shaped protrusion of velvet-like appearance occupying the whole circumference, while hæmorrhoids occupy, with firm or hard masses, but one segment.

Inspection will reveal the nature of venereal or other warty growth, while in malignant tumor firm nodules are to be discovered in the rectal wall, and, if they have begun to ulcerate, little difficulty in diagnosis will remain.

Polypi, if present, are found as pear-shaped, smooth, rather soft tumors attached by a long pedicle.

In fissure, upon distending the sphincter, under anæsthesia if necessary, the painful ulceration which has produced the severe symptoms will be disclosed.

PROGNOSIS.—Many instances will prove unsatisfactory as to recurrences unless radical operative measures are resorted to.

TREATMENT.—Everything depends upon an accurate diagnosis of the exact condition; whether the piles are external or internal, inflamed, itching, strangulated, or bleeding, etc.

In non-protruding painful piles, cold water by injection will often give greater relief than any other local application.

In protruding non-bleeding piles :

R Plumbi acetat.....	gr. xx.
Pulv. opii.....	gr. xv.
Bals. Peru	3 i.
Vaseline	3 i.

When very painful, hot-water applications. Then—

R Cocainæ	gr. vij.
Ext. opii.....	gr. xx.
Ext. belladonnæ	gr. xvi.
Lanolini	3 i.
M. S. Apply after washing. Then return mass.	

And, as a suppository at bedtime :

℞ Iodoform gr. iv.
Morph. sulph gr. ʒ
M. ft. sup. No. i.

For itching of surrounding parts :

℞ Ichthyol ʒi.
Vaseline..... ʒi.

—MATHEWS

Or—

℞ Calomel ʒi.
Cerat. simp ʒi.
M. ft. ung.

Or—

℞ Pulv. gallæ..... ʒi.
Pulv. camphoræ..... ʒi.
Pulv. opii gr. x.
Ung. stramonii ʒi.
M. S. Apply twice daily.

Or—

℞ Ext. stramonii,
Acidi tannici ʒss gr. ss.
Liq. plumbi subacetat gtt. ij.
Plumbi carb..... gr. i.
Creosoti gtt. ss.
Ol. theobromæ..... q.s.
M. ft. supposit.

Or—

℞ Morph. sulph gr. iiij.
Cocainæ hydrochl gr. vi.
Extr. sol. bellad gr. iiij.
Vasellini q.s. ad ʒiv.
M. S. Apply.

—J. V. BECELÆRE

For bleeding hæmorrhoids :

℞ Ferri subsulph gr. iiij.
Plumb. acetat..... gr. i.
Mass. hydrarg gr. ss.
Ol. theobrom..... q.s.
Ft. suppos. i. Introduce one morning and evening.

—HORWITZ

℞ Camphorated lanoline	℥ i½.
Castor oil	3 iiss.
White precipitate of mercury.....	3 i½.
Conium hydrobromate.....	3 ss.

—MONIN.

℞ Lanolin	℥ iv.
Petrolatum.....	℥ iiij.
Glycerin	℥ ij.
Distilled ext. hamamelis.....	℥ i.
Tannin	3 ss.
Powd. opium	3 ss.

M. S. Apply locally.

—FENNER.

℞ Chrysarobin	1. gm.
Iodoform	0.03 “
Extract of belladonna.....	0.015 “
Cacao butter.....	80. “

M. Make 15 suppositories. S. Two or three to be used daily.

℞ Chrysarobin.....	gr. xxiij.
Iodoform.....	gr. viij.
Extract of belladonna.....	gr. xv.
Vaseline	3 vi.

M. Make an ointment.

—POUNNE.

℞ Acidi gallici.....	gr. x.
Extract. opii.....	gr. iv.
Extract. belladonnæ	gr. v.
Unguent. simplicis	3 iv.

M. S. Apply locally night and morning.

—HARE.

For the radical cure of hemorrhoidal tumors:

1. WEAK SOLUTION.

℞ Potassii iodidi	gr. xxx.
Iodi.....	gr. iiij.
Glycerini	℥ i.

M.

2. STRONG SOLUTION.

℞ Potassii iodidi	gr. xlv.
Iodi.....	gr. xv.
Glycerini.....	℥ i.

M.

Solution No. 1 or No. 2 is ordered according to the susceptibility of the

patient. The method of treatment is as follows: The patient first takes a warm sitz bath. Then he dips pledgets of cotton in the iodine solution and applies them to the hemorrhoidal tumors. This should be repeated every hour, or at longer intervals.

—PREISSMAN.

℞ Ext. hamamelidis fld. ʒ i.
 Ext. hydrastis fld.,
 Tinct. benzoini comp. āā ʒ ss.
 Tinct. belladonnæ ʒ i.
 Ol. olivæ carbolizat. (five per cent carbolic acid) q.s. ad ʒ iij.
 M. S. Apply frequently.

—L. H. ADLER, JR.

Sitz bath and washing with water at 120° to 130° F. Insert into anus cotton tampon wet with two-per-cent cocaine before and after stool. Dilate with Trélat's two-bladed speculum. Extirpate only as a last resort.—RECLUS.

In internal hæmorrhoids, particularly associated with somewhat frequent movement of the bowels:

℞ Liq. ferri pernitratis ʒ iv.
 Liq. potass. arsenitis ʒ ij.
 Aquæ q.s. ad ʒ iv.
 M. S. Shake and take through a glass tube a teaspoonful in a wineglass of water after each meal.

—A. VANDER VEER.

Radical cure: irrigate bowel with salicylic solution. Introduce—

℞ Cocainæ gr. ij.
 Morphinae gr. ʒ-ʒ
 Ol. theobromæ q.s.

as a suppository; then an iodoform tampon through a speculum. Grasp the tumors with forceps. Inject into the cellular tissue adjoining each nodule on both sides two drops of a saturated solution of iodoform in ether.—CARL BECK.

℞ Ol. theobromæ ʒ ss.
 Ext. krameriaæ gr. xl.
 Pulv. opii gr. v.
 M. et ft. suppos. No. x. S. Use one night and morning.

—PANCOAST.

℞ Bismuthi subnitratis.....	℥ i.
Hydrarg. chloridi mitis.....	gr. xl.
Morphinæ.....	gr. iij.
Glycerini.....	3 ij.
Vaselini.....	℥ i.

M. S. Use in pile pipe.

—ALLINGHAM.

In painful piles :

℞ Ung. belladonnæ.....	℥ ij.
Camphoræ.....	3 i.
Tr. camph. co.....	3 i.

M. et ft. ungt. S. Apply.

—NELIGAN.

Internal Treatment.—*In the chronic form*, simple diet and open-air exercise. Avoid constipation, riding, and bicycling. Bathe anal region well with cold water after each action of the bowels. Take for a short period, at intervals, with lunch and dinner:

℞ Ext. hamamelidis.....	gr. i.
Ext. capsici.....	gr. iv.
Mellis.....	q.s.

Ft. massa. Take two such at a dose.

℞ Fluid extract of horsechestnut.....	℥ i.
Chloroform.....	gtt. v.

M. S. Ten or fifteen drops to be taken in a glass of wine or *eau sucrée* twice a day before eating.

If there is much hemorrhage, the following may be substituted:

℞ Fluid extract of horsechestnut.....	3 v.
Fluid extract of hamamelis.....	3 iiss.
Oil of peppermint.....	gtt. ij.

M. Dose, fifteen drops twice a day.

At the first intimation of local fulness :

℞ Extr. castaneæ vulgaris fld.....	℥ i.
Elixir simplicis.....	℥ vi.

M. S. Tablespoonful to be taken night and morning, and oftener if required, until congestion subsides.

Or tincture of castanea, gtt. xx.-xxx., twice daily.—
ARTAULT.

Headaches.

Cephalalgia is, as a rule, not an affection by itself, but is symptomatic of many widely diverse diseases and conditions. It is, however, often the predominant complaint and the one for which relief is sought. It is here more practical to consider the various forms together.

DIAGNOSIS.—We must separate the head pain of uncomplicated migraine from that which is a valuable symptom of underlying general conditions, and from that of purely local nerve origin, limited to certain definite distributions.

DIFFERENTIATION.—Hemicrania of renal insufficiency is irregular, of long duration, and persistent. Other evidences of kidney disease must often be elicited before simple migraine can be excluded.

Headache of nasal origin commonly is present on awaking, whereas headache due to eyestrain comes on later in the day after using the eyes. In the former the pain may be increased by touching the middle turbinate. Error of refraction or muscle weakness may be found in the latter and pain is in the brow or at the back of the globe.

Syphilitic headache is nocturnal or has nightly exacerbations, and coincides with early consecutive outbreaks. It is often neuralgic (supra-orbital) with tender points on pressure. Prompt relief by anti-syphilitic treatment is confirmatory.

Excessive sensitiveness characterizes the later bone and periosteal painful lesions. Prodromal migraine, usually present before pronounced signs of cerebral syphilis, is felt by the patient to be deeply located "within the head," and sensations of weight, tightness, or compression are present.

Parasyphilitic neurasthenic headache, often occipital, lasting for months or years, is usually present on awakening, but has not disturbed sleep during the night.

Headache of malarial origin would not be affected by phenacetin, while this origin might be excluded if the drug gives relief.

Chronic paroxysmal headache or migraine, affecting a part or the whole of one side of the head, without recognized cause, is usually looked upon as idiopathic. It may begin at any time and last for from several hours to three days. The pupil on the same side may be contracted and the cheek pale. This form is to be distinguished from supra-orbital neuralgia or pain in other definite nerve distribution, coming on at the same hour each day and showing remission after a certain time. In the former there is a long period of freedom before another sick-headache makes its appearance. Other forms are excluded by finding a cause, or by their double-sidedness. Brain or meningeal lesions are recognized through other, often characteristic signs.

Neurasthenic conditions give disagreeable rather than severely painful head symptoms.

In migraine :

℞ Exalgin. ʒ i.
 Rum,
 Syrup. ʒ i.
 Water ʒ iv.
 M. S. Tablespoonful three times a day.

℞ Antipyrin. gr viiss.
 Phenacetin. gr. iss
 Acetanilid gr ʒ
 M. For one cachet.

Caution.—Not more than three should be given in the twenty-four hours

℞ Phenacetin gr xv
 Sodii salicylat. gr. x.
 Caffeinæ salicylat. gr. v.
 M. S. Dose.

—JOS. COLLINS.

After spraying with seltzer water and energetic compression over both temples:

℞ Antipyrin..... gr. viii.
 Sparteinæ sulph..... gr. ʒ
 Caffeinæ citratis..... gr. iʒ.
 M. ft. caps. No. i. S. One every two hours till four are taken.

—CRITZMAN.

Hemicrania :

℞ Caffeinæ..... gr. vii.
 Acid. hydrochlor..... ℥ ij.
 Syr. aurant. flor..... ʒ ss.
 Aquæ destil..... ʒ iij.
 M. S. ʒ ss. every hour or two as required.

—BEASLEY.

Eau sédatif :

℞ Sodii chloridi..... ʒ i
 Spir. canphoræ..... ʒ i
 Aquæ ammoniæ..... ʒ iss.
 Aquæ..... O i.
 M. et ft. lotio. S. For external use.

—RASPAIL.

In migraine, the first step should be to wash out the stomach with water at a temperature of not less than 105° F. It relieves the pain and occasionally aborts the attack.—HERTER.

℞ Sodii phosphatis..... 10 parts.
 Sodii sulphatis..... 4 "
 Sodii salicylatis..... 2 "
 M. S. Teaspoonful every morning.

—RACHFORD.

Restricted red-meat diet, abdominal packs, and abdominal massage.—M. ALLEN STARR.

In migraine at each menstrual epoch, large doses of bromide during the intervals.—HIRSCH.

In nervous migraine of anæmic subjects :

℞ Ext. sumbul..... gr. i.
 Asafœtiæ..... gr. ij.
 Ferri sulphatis exs..... gr. i.
 Acidi arseniosi..... gr. ʒ

In sick headache, tincture of nux vomica, gtt. i. every ten minutes until amelioration has distinctly set in.—JOHN MUSSER.

Or, oil of eucalyptus, ℥ v. every four hours.—M. LEWIS.

Or, silver nitrate, gr. ss., five or six times daily.—GRAVES.

In angiospastic migraine, the headache of neurasthenia or that of purely nervous origin:

℞ Methylene blue..... gr. xxx.

Ft. capulæ No. xx. S. One four times daily.

Caution the patient that the urine will become blue, and if bladder irritation supervenes, add an equal quantity of powdered nutmeg to each capsule.—LEWY.

Headache with high tension, extractum cannabis indicæ (recens), pushed to intoxication.

Headache of low tension (congestive form with flushed face), caffeine.—HINGSTON FOX.

Neurasthenic headache:

℞ Ammonii carbonatis..... 3 iij.

Tinct. moschi 3 vi.

Spiritus lavandulæ..... 3 i.

Elix. ammonii valerianatis..... 3 viij.

M. S. Two teaspoonfuls at a dose in water.

—HAMILTON.

℞ Extr. cannabis indicæ..... gr. $\frac{1}{2}$

Zinci phosphidi..... gr. $\frac{1}{16}$

Acidi arseniosi..... gr. $\frac{1}{16}$

For one pill. Give twice daily for some time.

To reduce severity of the attack, liq. trinitariæ, ℥i. two or three times daily.—LUCKING.

Cephalalgia.—Cannabis indica is useful in all forms, gr. $\frac{1}{12}$ to gr. $\frac{1}{2}$.—MACKENZIE.

℞ Antifebrin..... gr. i.

Phenacetin..... gr. v.

Antipyrin..... gr. v.

M. S. For one powder.

This combination will relieve headaches promptly and better than any single coal-tar remedy.—LEONARD WEBER.

Headache dependent upon ovarian disease :

℞ Ammonii bromidi..... ʒ vi.
 Extr hydrastis fld..... ʒ ss.
 Tinct. gentianæ comp..... ʒ iss.
 Aquæ..... ʒ iv.
 M. S. A dessertspoonful three times a day. —SINKLER.

Headache of menstruation, ext. cimicifugæ fld., gtt. x.,
 repeated as required.

Headache accompanying the menopause :

℞ Sodii arsenatis..... gr. i.
 Extr. cannabis indicæ..... gr. iiss.
 Extr. belladonnæ..... gr. iv.
 M. ft. pilulæ No. xv. S. One pill twice daily.

Hysterical headache :

℞ Zinci valerianat..... gr. xij.-xxiv.
 Extr. belladonnæ..... gr. iij.-v.
 Extr. gentianæ..... gr. xxiv.
 Divide into twelve pills. S. One twice daily.
 —THOMAS TANNER.

℞ Zinci oxidi..... ʒ ij.-v.
 Confect. rosæ..... q.s.
 Divide into twenty pills. S. One thrice daily after meals.
 —WILLIAM A. HAMMOND.

In the congestive form :

℞ Pil. hydrarg..... gr. xxiv.
 Ferri sulph. exsiccati..... gr. xij.
 Pulv. opii..... gr. iss.
 Extr. gentianæ..... gr. xxiv.
 M. et ft. pil. No. xxiv. S. One or two before bedtime. —SEYMOUR.

℞ Resinæ podophylli..... gr. ij.
 Extr. colocynth comp..... gr. xij.
 Extr. nuc. vom..... gr. iij.
 Ferri sulph. exsic..... gr. xij.
 M. et ft. pil. No. xii. S. One at bedtime. —PEPPER.

℞ Ferri sulphat..... gr. xxxij.
 Magnes. sulphat..... ʒ x.
 Acid. sulphur. dil..... ʒ ij.
 Tinct. cardamom comp..... ʒ ij.
 Syrupi,
 Aquæ pimentæ..... āā ʒ i.
 M. S. ʒ ii. in water twice a day. —WRIGHT.

In the plethoric form, the hot foot-bath is often of signal service.

To abort a bilious or dyspeptic headache :

℞ Pilulæ hydrargyri,
 Pilulæ rhei compositæ.....āā gr. iv.
 Extracti hyoscyami gr. ij.
 M. Divide into two pills. S. To be taken at night.

—HENRY G. WRIGHT.

Rheumatic headache :

℞ Potassii iodidi,
 Sodii salicylatis.....āā 3 ij.
 Vini pepsiniq.s. ad 3 iij.
 M. S. One teaspoonful three times a day after meals.

℞ Ext. colchici gr. v.
 Ext. digitalis..... gr. iv.
 Quininæ valerianatis..... gr. xxiv.
 M. ft. capsulæ No. xv. S. One capsule four times a day.

℞ Chloralis hydratis,
 Camphoræ,
 Olei cajuputi.....āā 3 i.

M. S. Apply locally for the relief of pain in rheumatic or neuralgic headache.

℞ Salipyrini 3 ij.
 Ft. pulveres No. xii. S. One powder three times a day.

—J. C. WILSON.

In the gouty :

℞ Potassii carbonat..... 3 iss.
 Ammon. carbonat..... gr. xl.
 Tinct. serpentariæ..... 3 ss.
 Aquæ camphoræ..... 3 iiiss.
 M. S. 3 i. to be added to water and lemon juice (āā 3 ss.). To be taken while effervescing, twice or thrice daily.

—WRIGHT.

℞ Sodii iodidi,
 Vini colchiciāā 3 iij.
 Ext. cimicifugæ fluidi,
 Tinct. guaiaci ammoniatæ,
 Ext. cocæ fluidi.....āā 3 vi.
 M. S. One teaspoonful after each meal, in water.

Gouty headache with anæmia :

℞ Acidi salicylici,
 Ferri pyrophosphatis.....āā 3 i.
 Sodii phosphatis..... gr. xii.
 Aquæ destil.....q.s. ad 3 vi
 M. S. One tablespoonful in water.

—PEABODY.

R Sodii salicylatis	℥iv
Glycerini	℥ij
Olei gaultheriæ	℥ij xx
Tinct ferri chloridi	℥iv
Acidi citrici	℥x
Liquoris ammonii acetatis	q s. ad ℥iv

M. S. One dessertspoonful three times a day in water

—SOLIS-COHEN.

Headache of uræmia accompanying chronic interstitial nephritis :

R Potassii citratis,	
Tinct hyoscyami,	
Spiritus ætheris nitrosi	āā ℥iv
Infusi scoparii	q s. ad ℥ij

M. S. One tablespoonful three times a day, in water —COLLINS

Headache of eye strain :

R Ext. nucis vomicæ	gr viij
Ext cascariæ sagrada	gr xij
Ext gentianæ	gr xxiv

M ft capsulæ No. xxiv S One capsule every four hours

Headache associated with flatulency :

R Sodii bicarbonatis,	
Bismuthi subgallati,	
Pulveris acacie	āā ℥i
Aquæ menthæ pip.	℥ij
Aquæ destil	q.s ad ℥viij

M. S Shake Two teaspoonfuls before each meal

Headache of atonic dyspepsia with little flatulency :

R Sodii arsenatis	gr i
Quinine sulphatis,	
Ferri sulphatis	āā gr xl
Pulveris rhei,	
Pulveris zingiberis	āā gr xx

M ft capsulæ No. xx. S. One capsule after each meal

In the nervous :

R Acid nitromuriat. dil	℥ij
Strychnine	gr. ʒss.
Spiritus chloroformi	℥vi
Tinct zingiberis	℥ij
Aquam	ad ℥ij

M. S ʒi in water t i d.

—TANNER.

Prodromal to cerebral syphilis :

℞ Hydrarg. chloridi mitis..... gr. iss.
 Olei olivæ sterilizat..... q.s.

S. As an injection every ten days.

℞ Potassii iodidi 3 i.—3 iss.
 Daily for a woman ; double for a man.

Neurasthenia after syphilis, bromides, hot baths, massage, change of climate.

To prevent recurrence, every function must be maintained as nearly as may be in normal working-order. Especially is it necessary to secure daily free action of the intestines. Causes for recurrent migraine are to be sought in all the organs of the head—eyes, nose, throat, etc. Eye strain is to be especially watched for and corrected.

Heart Diseases.**ACUTE ENDOCARDITIS.**

In the presence of acute rheumatism, the heart should be examined again and again with the utmost care, since endocardial changes may occur without marked subjective symptoms. Pericardial oppression, dyspnœa, palpitation, and increased temperature, not accounted for by outward signs of rheumatic exacerbation, should direct attention to the heart valves.

DIAGNOSIS.—Even in the discovery of a murmur we are not always justified in deciding that endocarditis is present, since the murmur may be of hæmic or functional nature; conversely, physical signs may be absent where endocarditis exists. The presence of severe and debilitating affections other than rheumatic, such as typhoid, scarlatina, diphtheria, and the like, make the diagnosis of endocarditis probable.

In suspected ulcerative endocarditis take the temperature several times daily; the thermometer is of as much use as the stethoscope. The temperature rises and falls.—LAUDER-BRUNTON.

DIFFERENTIATION.—From simple endocarditis are to be differentiated those cardio-respiratory murmurs caused by a quick inspiration, occurring coincidentally with the heart beat. This is readily accomplished by noting that the respiratory murmur disappears when the patient holds his breath.

Malignant endocarditis may simulate by its symptoms of toxæmia, acute tuberculosis, typhoid or malarial fever. These may be excluded by the more gradual onset in typhoid and tuberculosis and by the temperature range, while an examination of the blood will exclude malaria as a cause.

Endocarditis in the Aged.—In old people a *recrudescence* in an acute or subacute form of old chronic valvular lesions is by no means an uncommon thing. Febrile endocarditis in the aged may arise primarily from an attack of acute articular rheumatism, or may result from some other form of infection, but these are the exceptions, as it is almost always engrafted on an old valvular lesion.—W. M. GIBSON.

Gonorrhœal endocarditis may be regarded as a malignant form. The cocci have been demonstrated in the blood of the living, and in the thrombi post mortem.

TREATMENT. *Prophylaxis.*—As soon as the heart sounds in acute articular rheumatism begin to grow muffled, or a *bruit* is detected, give in addition to the salicylate, iodide of potassium, 0.60 cgm. three times daily; also apply flying blisters over the apex and along the course of the fourth, fifth, and sixth intercostal nerves. Keep the patient in bed for a long time, and give a light milk diet.—CATON.

℞ Pulv. opii gr. ij.
Hydrarg. chlor. mitis gr. xvi.
M. et ft. chart. No. viii. S. One powder t.i.d.

—BUDD.

To reduce heart's action:

℞ Tinct. viratri viridis ʒ ss.
S. Gtt. v.

—HAZARD.

Locally :

℞ Tinct. iodi..... 3 ℥j.
 Spir. chloroformi..... 3 i.
 Tinct. aconit. rad..... gtt. xxv.
 M. S. Apply with a brush twice daily.

—KEATING AND EDWARDS.

After active signs have abated, rest for some days, and agents which lower blood pressure within heart and vessels.—FOTHERGILL.

Poultices are of great benefit and give decided relief.—DA COSTA.

To reduce high temperature, Leiter's coils applied to thorax or abdomen.—TYSON.

In the cardiac complications of the acute infectious diseases, and during the acute stage of an endocarditis, the application of an ice bag to the precordium is of great service. While acting as an antiphlogistic, it at the same time relieves palpitation, diminishes pain, and slows the heart's action.

Orrhotherapy has been employed for the cure of malignant endocarditis, antistreptococcic serum being used.

CHRONIC ENDOCARDITIS.

When congenital, the right side and the tricuspid valve especially is affected, while the acquired form affects the left side by preference. The mitral is mostly involved in early life, while in late life it is the aortic which is generally diseased.

Physical signs reveal the condition, often before symptoms present themselves.

The signs of endocarditis include a blowing-sound, excited action of the heart, slight if any increase of the area of dulness, and strong impulse. Sounds, normal or more distinct, except at the site where the murmur is heard.—DA COSTA.

DIAGNOSIS.—Cardiac dropsy, especially about the ankles, disappearing during rest in bed is one of the earliest manifestations.

Emboli carried into the circulation may cause sudden death; or when lodged in the brain produce hemiplegia; or carried to the spleen produce splenitis; or to the kidneys, necrosis; or into the extremities, causing gangrene. Symptoms may, therefore, be most varied, remaining latent if compensation of the heart wall be maintained; otherwise signs of dilatation occur.

PROGNOSIS is good if the compensation is maintained. In children a fatal termination is looked for earlier, while in the aged the condition may exist for many years so long as the general nutrition is kept up. A fatal result follows implication of the valves on the right side sooner than of those of the left, cyanosis and dropsy being more readily produced. When several valves are affected the prognosis is more unfavorable.

Were it not for the permanent changes in the valves and the danger from embolism, the outlook would be favorable. Aside from this is the danger of the simple form becoming septic and leaving the heart much more seriously damaged should recovery take place.

VALVULAR DISEASES.

Aortic insufficiency is relatively infrequent, and is the most serious valvular lesion; sudden death is the usual result.

DIAGNOSIS.—The murmur is heard most distinctly in the second right intercostal space, is diastolic, and is transmitted down the left margin of the sternum. Signs of hypertrophy and dilatation are always present and *cor bovinum* is frequent.

The Corrigan or water-hammer pulse, with visible pulsation in the peripheral arteries, is an almost constant symptom.

Pain is a symptom accompanying lesions at the aortic orifice, but is rarely found in mitral affection.—NOTHNAGEL.

TREATMENT.—In valvular disease in which digitalis has failed to restore compensation the Nauheim baths may prove remarkably beneficial.

In aortic regurgitation digitalis is not always beneficial.

Good results are secured at Nauheim in lack of compensation from both aortic and mitral disease, separately or combined.—RIVES.

Caution.—In aortic regurgitation digitalis is a dangerous medicine. Exercise should be abstained from while taking digitalis, since it counteracts its influence.—ENGLISH.

Aortic stenosis is a quite frequent lesion, though not so common as insufficiency.

DIAGNOSIS.—A systolic murmur at the midsternum, opposite the third interspace, transmitted upward and to the right into the vessels, is not pathognomonic; a similar murmur but less harsh, occurs with the thickening of the valves and in hæmic conditions.

PROGNOSIS.—The lesion is often well borne for a long time. A moderate amount of hypertrophy of the left ventricle will usually maintain compensation. Liability to sudden death from overdistention of the left ventricle is ever present.—J. K. CROOK.

TREATMENT.—The only excuse for prescribing digitalis is to give vigor to the muscle of the heart when the tendency to dilatation is announced.

Unload the congestion of the liver and spleen by calomel and salines, and strengthen the heart by saline baths and resistance exercises.—HEINEMAN.

Mitral insufficiency is the most common valvular lesion, and gives the most promising prognosis.

DIAGNOSIS.—A systolic murmur, loudest at the apex, transmitted to the axilla, and heard at the back. Heart enlarged transversely.

When in a case of mitral disease we have had overfilling of the pulmonary veins, and consequently increased tension in the pulmonary artery and augmented loudness in the click of its valvules, disappearance of this accentuation of the second sound over the pulmonary artery indicates great failure on the part

of the right ventricle. Feebleness or absence of aortic or mitral murmurs, previously present, suggests failing ventricular contraction on the left side.

TREATMENT.—Only in relative and functional insufficiency is a complete cure possible in valvular disease; treatment prolongs life. Absolute rest in bed until hypertrophy has occurred; then begin exercise. The patient should stop and rest as soon as palpitation and shortness of breath occur. The diet should contain a preponderance of proteids; alcohol, coffee, and tea sparingly and diluted.

Caution.—Never give digitalis in large amount unless the patient remains in bed until the desired effect is produced and the drug has been stopped.

To excite kidney action :

℞ Hydrarg. chl. mitis..... 3*ss*.
Ft. cht. No. x. S. One, two or three times daily.

—LIEBERMEISTER.

For the mitral disease :

℞ Zinci sulphat..... gr. i.-ii.
Camphoræ gr. i.
Ext. hyoscyami gr. ij.
M. ft. pil. S. Take t.i.d.

—BARLOW.

In mitral regurgitation with anæmia :

℞ Pulv. scillæ gr. x.
Pulv. ferri,
Pulv. digitalis (English),
Quin. sulphat..... *ss* ʒi.
M. et ft. pil. No. xx. S. One pill t.i.d.

—BARTHOLOW.

To produce diuresis and diminish anasarca, morphine.—
HERVOUET.

In the congestive and dropsical complications of advanced disease :

℞ Pulv. digitalis gr. i.
Pulv. scillæ..... gr. i.
Pil. hydrargyri gr. i.
M. ft. pil. One to be taken thrice daily between meals.

—SIR JAMES SAWYER.

Mitral stenosis is often borne for a number of years and liability to sudden death is not great.

DIAGNOSIS.—A presystolic murmur, heard above and a little to the inner side of the apex beat and transmitted downward and to the left.

A rough, grating, well-defined fremitus or thrill, best felt in the fourth or fifth interspace within the nipple line, is pathognomonic.—OSLER.

Compensatory hypertrophy and dilatation of the right heart may produce bulging of the chest wall in children.

Non-compensation produces venous stasis in the pulmonary circulation. Bronchitis is common.

TREATMENT.—In the stenoses, until hypertrophy of the section of the heart concerned has taken place, all great demands upon it which the heart is not able to meet at once should be carefully avoided.—LIEBERMEISTER.

Aortic regurgitation with mitral stenosis :

℞ Tinct. strophanthi,
Tinct. nucis vomicæ,
Tinct. digitalis.....ââ p. æ.
M. S. Gtt. xx.-xxx. t.i.d.

—W. H. THOMSON.

Tricuspid Stenosis.—As a diagnostic sign of this condition we have a pulsation of the liver, which James MacKensie designates the auricular type.

It is the hepatic pulse and not the venous pulse that is looked upon as distinctive.

In congenital defects and dilatation without valvular disease, *resistance gymnastics*, carried out by an experienced nurse under physician's orders.—SAUNDBY.

HEART DISEASE IN CHILDREN.

GENERAL DIAGNOSIS.—In the young irritability of temper is often referable to valvular affections and should lead to examination of the heart.

In anæmic and nervous children irregular heart action is frequent. The rhythm may be disturbed by disorders of digestion.

DIFFERENTIATION.—In cardiac irregularity, tuberculous meningitis must be excluded.

GENERAL PROGNOSIS.—In order to prognosticate in the cardiac affections of children we must inquire: 1. If the cardiac disease was caused by a single attack of rheumatic fever, how long it is since the attack, and what has been the health in the interval? 2. If there have been two or more rheumatic attacks, at what intervals have they occurred? 3. The family history. 4. What is the condition of the patient as regards general nutrition? 5. Is there good compensation, or commencing or even advanced failure? 6. If there is heart failure, is it recent, or only a stage farther on the downward course? The condition of the heart, lungs, liver, and kidneys will help materially in answering this question. 7. If there is œdema of the ankles.

Frequent recurrence of rheumatism at short intervals is a bad sign.

A subject of aortic regurgitation cannot expect length of days. Fatal failure may occur at any time.—CHAPMAN.

In dilatation with secondary hypertrophy the prognosis is good, if ordinary precautions are taken.

TREATMENT.—*In organic valvular disease in children*, nuxvomica gradually and cautiously. I prefer, however, for a child of eight years, if digitalis fails:

℞ Tincturæ ferri chloridi 3 ij.
 Syrupi ananassæ sativæ (pineapple) ʒ v.
 One teaspoonful every three hours, alternating with:
 ℞ Spir. æther. nitrosi ʒ ss.
 Spir. Mindereri ʒ iv.
 One teaspoonful every three hours.

—J. LEWIS SMITH.

In heart failure in children, occurring in acute febrile disease:

℞ Caffeinæ,
 Sodii benzoatis.....ãã 1.6
 Tinct. aurant. cort. gtt. xx.
 Aquæ destill.,
 Syr. simplicis.....ãã 50
 M. S. Tablespoonful for a dose.

—BRUNEAU.

HEART DISEASE IN PREGNANCY.

Parturition may be the determining factor in producing a dangerous condition of cardiac weakness. Death from heart failure occurs with the greatest frequency during the week succeeding labor.

When symptoms of heart failure are noted as early as the third or fourth month, emptying the uterus is justifiable.

Free bleeding during the third stage of labor has a most useful effect.

The application of leeches over the liver or heart when, during the puerperium, blueness of the face and lips, dyspnœa, and pulmonary troubles tell a tale of an overdistended and failing right ventricle. Of all drugs strychnine and nitrite of amyl are the most useful.—HANDFIELD-JONES.

In syncope, inclination of the head downward and backward, transfusion of blood, subcutaneous injection of a solution of common salt, electrization of the phrenic nerve, and artificial respiration when respiration also is affected.—BOBROF.

TREATMENT OF CHRONIC ENDOCARDITIS IN GENERAL.

I. Hygiene and Exercise.—Resistance gymnastics, or Dr. Schott's system, consists of slow movements made by the patient and resisted by the operator, short intervals being allowed for rest. The exertion should be small, and the patient should be loosely clothed and told to breathe quietly. This matter of quiet breathing is quite important. It must be watched and controlled by the operator. The resistance should not be of such a kind

as to prevent the patient from feeling master of the situation. The operator must not grasp or in any wise constrict the limb, but oppose by the hand held flat. The following rules are laid down: 1. Each movement is to be performed slowly and evenly; that is, at a uniform rate. 2. No movement is to be repeated twice in succession in the same limb or group of muscles. 3. Each single or combined movement is to be followed by an interval of rest. 4. The movements are not allowed to accelerate the patient's breathing, and the operator must watch the face for the slightest indications of (*a*) dilatation of the alæ nasi; (*b*) drawing of the corners of the mouth; (*c*) duskiness or pallor of the cheeks and lips; (*d*) yawning; (*e*) sweating; and (*f*) palpitation. 5. The appearance of any of these signs should be the signal for immediately interrupting the movements in process of execution, and for either supporting the limb which is being moved or allowing it to subside into a state of rest. 6. The patient must be directed to breathe regularly and uninterruptedly, and should he find any difficulty in doing so or for some reason show a tendency to hold his breath, he must be instructed to continue counting in a whisper during the progress of each movement. 7. No limb or portion of the patient's body is to be so constricted as to check the flow of blood.—SIR T. GRAINGER STEWART.

The movements are as follows: 1. Arms extended in front of body on a level with shoulder, hands meeting; arms carried out until in line, and brought back to original position. 2. Arms hanging at sides, palms forward; arm flexed at elbow until tips of fingers touch shoulder, back to original position: one arm only moved at a time. 3. Arms down, palms forward; arms carried outward and upward until thumbs meet over head; back to original position. 4. Hands in front of abdomen, fingers flexed so that second phalanges touch those of opposite hand; arms raised until hands rest on top of head; back to original position. 5. Arms down, palms against thighs; arms raised in

parallel planes as high as possible; back to original position. 6. Trunk flexed on hips: return to original position. 7. Trunk rotated to left, to right: return to original position. 8. Trunk flexed laterally. 9. As No. 1, but fists clenched. 10. As No. 2, but fists clenched. 11. Arms down, palms against thighs; each in turn raised forward and upward until arm is alongside of ear, then turned outward, and arm descends backward. 12. Arms down, palms to thighs: both together moved backward in parallel planes as far as possible without bending the trunk forward. 13. Thighs in turn flexed on trunk, opposite hand resting on chair. 14. Lower extremities in turn extended fully, and bent on trunk forward and backward to extreme limits of movement, opposite hand resting on chair. 15. Legs in turn flexed on thigh, both hands on chair. 16. Feet together: lower extremities in turn abducted as far as possible, and brought back to original position, opposite hand resting on chair. 17. The arms, extended horizontally outward, are rotated from the shoulder-joint to the extreme limits forward and backward. 18. The hands in turn are extended and flexed on the forearm to extreme limits, and brought back in line with arm. 19. The feet in turn are flexed and extended to extreme limits, and then brought back to their natural position.

Indications, generally speaking, are all circulatory disturbances, all diseases of the heart with or without valvular disease, and particularly with loss of compensation, angina pectoris (bath should always be first employed), and congenital cardiac disease. Ordinary complications, such as edema, anasarca, hydrothorax, hypertrocardium, and moderate chronic renal congestion, do not contraindicate the above treatment.

In patients incapable of walking and climbing, as in Gertel's method.

Contraindications are found in arterial sclerosis in advanced stages; in the presence of many complications, pulmonary infarction, etc.; marked weakness, aneurysm of the aorta, if

second or third degree; acute and chronic nephritis.—H. N. HEINEMAN.

The Oertel system consists essentially in requiring the patient to take daily walks up hills or mountains of different steepness, the distance graduated according to the requirements of the individual patient.

Mental occupation is valuable.

All forms of exercise are contraindicated during loss of compensation, with a feeble heart laboring to maintain equilibrium. Rest in bed is then essential.

II. Cardiac Remedies.—Compensation is a relative term: compensation in the face of work and license generally; compensation without strain of muscle or tax of mind; compensation with rest of body and mind insured. If failure has occurred, as is usually the case when treatment is called for, get at the cause which is at work. Overwork, insufficient exercise, underfeeding, overfeeding, cardiac poisons, mental distress or strain, anæmia from hemorrhage, insanitary life and work, uterine complications, affections of the lungs taxing the right heart, affections of the vessels taxing the left heart, including Bright's disease—these are examples of the varieties of causes at work in cardiac failure which must be searched out and treated, each in its own proper way.—J. M. BRUCE.

In overdistention of the cardiac cavities removal of blood will give great relief. Leeches may be applied, cupping-glasses may be used, or a three-inch blister applied over the ensiform cartilage to obtain a copious flow of serum.

Next to abstraction of blood is a purgative dose of calomel followed by sulphate of sodium. Considerably limit the ingestion of fluids. Keep the patient sitting up for several nights; œdema of the lower extremities is thereby induced; withdraw the serum by puncture. Lastly phlebotomy.—JAMES LITTLE.

Digitalis is the most frequently useful drug.

Caffeine is a cardiac tonic ranking next to *digitalis* and *stro-*

Strophanthus, but is liable to produce restlessness, nervousness, and wakefulness.

The bromides often relieve cardiac distress, but are depressing.

Arsenic is a heart tonic.

Nitroglycerin is very effective in overcoming obstruction in the arterioles; dose, gr. $\frac{1}{100}$ increased to gr. $\frac{1}{80}$ or more.

Amyl nitrite acts more quickly, but the result is not so permanent. It is anodyne.

Sparteine sulphate in doses of two or three grains is useful as an alternate stimulant.

The more frequent and the more irregular in force and rhythm is the heart beat, the more confidently can we prescribe *digitalis*.

The drug is injured by being kept for days in aqueous solution. Mix the dose of tincture with water or spirits at the time of giving. It slows the heart action by prolonging the diastole. When it fails to bring about an increase in the force of the contractions give *strophanthus*. *Digitalis* is in general a far more useful drug. Stop giving as soon as it has produced the desired effect, namely, slowing and steadying of the heart beat. An occasional dose may be given to maintain the effect.

When chronic inflammatory changes are still going on in the valves, iodide of potassium appears to aid the action of cardiac tonics.—STEWART.

In gouty affections *digitalis* and *strophanthus* are to be preferred to all other cardiac tonics.

Caution.—Avoid overexertion; stimulants (light Rhine wines are the least harmful). Salicylates, antipyrin, and anti-febrin require caution. Lithium salts irritate the alimentary canal and potassium salts should be very cautiously used, owing to their toxic action on the heart, and opium as little as possible.

Unfavorable action upon the heart may be exercised in trying to call forth the attack of gout by baths.—SCHOTT.

In strychnine we have an ideal cardiac stimulant, which not only acts upon the circulation, but upon respiration, digestion, and assimilation as well. It is especially indicated in the weak heart of pneumonia and febrile processes, given hypodermatically in $\frac{1}{80}$ to $\frac{1}{10}$ grain doses, repeated until some sign of the drug is manifested. It is also useful to relieve the alarming symptoms which occur in surgical anæsthesia, in the cardiac weakness often associated with neurasthenia, and in that due to depressed nerve force. *Strophanthus* is of great value as a cardiac sedative in that form of tachycardia so common in exophthalmic goitre. These two drugs will retain their supremacy because of their influence over the vital centres in the medulla, to which the various systems of the body look for support and encouragement.—KRAUSS.

Caution.—*Strophanthus* is not suitable for prolonged use and may cause extreme cardiac “distress.” After a period of rest it may again prove useful.—LITTLE.

Strophanthus is a heart poison and not a heart tonic. Even small doses in a weakened heart are said to interfere with nutrition.—BALFOUR.

Calomel.—Dr. Maldaresco has reported very favorable results from a course of calomel, followed by the iodide of potassium. He first gives one and one-half grains every two hours for six doses daily, and keeps this up for two or three days, when the dose may be increased to two or three grains for a few days longer, before the iodide is begun.

To reduce arterial tension, chloral is of great use in connection with nitroglycerin.—KINNICUTT.

In high arterial pressure, when nitroglycerin is contraindicated:

R Chloral.

Bromide of sodium ʒi.

Syrup of lactucarium ʒi.

Water q.s. ad ʒiij.

M. S. Teaspoonful every four hours.

In Low Tension.—For the relief of *passive congestion* and to establish compensation, the pulse being of *low tension*, the caliber of the blood-vessels should be contracted by vasoconstrictors, of which the most reliable is “ergotole.” For the regulating of the rate of cardiac contraction, drugs which have little or no effect upon the size of the blood-vessels should be used—*opoponanthus* or *sparteine*, *caffeine* or *cactus*.—WILCOX.

Atropine is indicated in irritation of the pneumogastric, slow pulse, dizziness, convulsions, syncope. Hypodermic injection, half to two milligrams.—CARDARELLI.

A tonic dosimetric granule :

℞ Morphine.....	gr. $\frac{1}{15}$
Strychnine.....	gr. $\frac{1}{15}$
Atropine.....	gr. $\frac{1}{15}$
Caffeine.....	gr. $\frac{1}{15}$

May be used hypodermatically.—EDW. C. MANN.

As an analgesic in the more or less permanent pains of vascular cardiopathies:

℞ Tinct. piscidiæ erythrinæ.....	60 gm.
Tinct. verat. virid.,	
Ext. aconiti rad. alc.....	ââ 15 “
M. S. Thirty drops morning and night.	

—LIÉGEOIS.

In the intense pain of mitral disease, morphine, gr. $\frac{1}{15}$ to $\frac{1}{10}$, hypodermatically.

In imperfect compensation, as little food as possible should be taken, to decrease heart work.—HIRSCHFIELD.

In threatened cardiac debility, any excess of alcohol, even a slight excess, is to be strongly deprecated. In debility following influenza, diphtheria, and other exhausting disease, whiskey may be of use in doses of from two drachms to an ounce, not exceeding four ounces in twenty-four hours, always taken with food or mixed with milk.—SIR T. G. STEWART.

Alcohol often fails to support the heart and is apt to add to the pathologic engorgement to cardiac weakness.—LITTLE.

In emergencies use strophanthus, since it acts more quickly than digitalis.—T. G. S.

In cardiac debility, as in tuberculosis and in fatty heart, dehydration and mountain climbing.—OERTEL.

To relieve nocturnal breathlessness, place the patient in a chair and apply a large light hot poultice to the chest. Give a little hot wine and water. If these means fail, morphine hypodermatically.

Or—

℞ Morphinæ sulphat.	gr. iv.
Chloral	gr. ij.
Liq. atropinæ sulphat. (P. B.)	℥ xij.
Aquæ camphoræ	q. s. ad 3 iv.

The chloral is added merely to make the solution keep; it renders the injection slightly painful. Ten minims contain morphine sulphate, gr. $\frac{1}{8}$, and atropine sulphate, gr. $\frac{1}{16}$; but eight minims is a suitable dose for a first injection.—JAMES LITTLE.

For dyspnœa, Hoffman's anydone or paraldehyde in drachm doses; or, better, chloralamide, gr. xxx.

For anasarca :

℞ Diuretin (Knoll)	1 gm.
Pulv. digit. fol.	0.10 cgm.
Sacch. alb.	0.30 cgm.

For one powder. Three such daily.

—EICHHORST.

Diuretic pill :

℞ Scillæ pulv.,	
Digitalis pulv.,	
Caffeinæ citratis.	ââ gr. xxx.
Hydrarg. chlor. mitis.	gr. v.
M. et ft. pil. No. xxx. S. One pill thrice daily, after meals.	

Or—

℞ Theobromine	gr. x.
Powdered digitalis	gr. i.
Camphor.	gr. ij.
Calomel.	gr. i.

S. In a capsule. Four to be taken daily.

℞ Calomel,
 Scillæ pulv.,
 Digitalis pulv.....ãã gr. i.
 For one pill. S. One every four hours.

—FOTHERGILL.

Or, blue pill, gr. iii., three times daily, to be gradually diminished.

Or, in grave cases of dropsy, *theobromine*, gr. 45 to 75, daily for three days.—GERMAIN SÉE.

Caution.—Never attempt to remove the dropsy by hot-air baths or pilocarpine.—LOOMIS.

For dropsy, full doses of digitalis every three hours and then every two. Omit solid food and reduce liquids to a minimum. The association of nitroglycerin (gr. $\frac{1}{100}$ — $\frac{1}{50}$) with digitalis is important.

For irregularity of heart action, palpitation, and pain, belladonna plaster over the heart region; nitroglycerin.—TYSON.

Stimulants and opium in sufficient quantities to relieve the marked depression of the early period.—A. L. LOOMIS.

For Palpitation of the Heart.—The various diseases that are accompanied by palpitation—incipient acute aortitis, acute endocarditis, acute pericarditis, adhesions of the pericardium, and mitral stenosis or insufficiency—are benefited by digitalis or its substitutes. I give the following formula:

℞ Quinine hydrobromate 3 i.
 Powdered digitalis gr. xxx.
 Extract of convallaria..... gr. xxx.
 Divide into forty pills; two to four to be taken daily.

—HUCHARD.

To relieve the palpitation and nervousness of functional heart disease, cactus grandiflorus, in a tincture made by macerating four ounces of fresh stems in a pint of strong alcohol for a month, seems to act chiefly on the accelerators and sympathetic ganglia, shortening the diastole and stimulating the special vasomotor system.—WATSON.

Belladonna Plaster applied over the heart is one of the best remedies we have.

Hot oil over the precordium gives excellent results.

Irritable heart:

℞ <i>Infusum</i>	.....	℥iv.
<i>Tinct. belladonnae</i>	.....	℥ij.
<i>Sixty drops</i>	.....	q. s. ad ℥iv.

M. i. Teaspoonful three times daily, between meals and at bedtime.

—EGBERT.

In paroxysms of hysteria and neurasthenia, tr. piscidie *ext. m. m.* For a daily amount.—LIEGEON.

In heart failure, the most essential thing is rest. Bleeding in great veins congestion of mitral stenosis.—SHARKEY.

When threatened, hot water bag over the heart region.

Non-harmful or artificial imitations should be tried and passive exercises used when there is grave debility of the heart, active exercises when there is greater vigor, and Oertel's method graduated hill climbing when the heart has sufficiently recovered.—SIR T. G. STEWART.

On the—Do not use the Schott method indiscriminately. Rest and heart tonics are the best means.—BRANWELL.

Intermittent exercises are heart weakening, systematic exercises heart strengthening.—SCHOTT.

The most suitable cases for the Schott treatment are those of enfeebled heart, with or without marked dilatation, and with or without organic valvular lesion.—*Lancet Commission*.

In heart failure from chloroform, rapid impulses (up to one hundred and twenty a minute) are given by the surgeon's left hand over the heart region as he stands on the patient's left and steadies the right chest wall with his left hand.

Stimulants may be demanded, and the best are alcohol, camphor, strong coffee with rum or cognac, and hypodermic injections of camphorated oil or ether.—LIEBERMEISTER.

Formula for wine of coca :

R Coca leaves	℥ iij.
Cognac	℥ iss.
Sherry wine	O iss.
Hungarian wine	℥ vi.
Macerate for several days and add seven grains of citric acid. Allow this mixture to stand for several days and then filter.	

In the aged, tinct. digitalis, ℥ x., at bedtime, twice each week for three months.—JAMES LITTLE.

Whenever the bicuspid valves have lost their ability to close the auriculo-ventricular orifice, and the cavity of the right ventricle is distended, while the muscular walls have lost compensatory power, with pulsating, enormously distended, overcharged jugulars, with pronounced epigastric pulsations and a soft, blowing, distinctly marked murmur over the right heart, when other means fail, venesection often gives relief, temporarily at least.—B. ROBINSON.

III. Diet in Cardiac Disease.—The question of proper diet depends upon the condition of the heart; when compensation is disturbed, the venous engorgement of the viscera disturbs digestion.

In general employ nutritious food, easy of assimilation, and use small quantities repeated at frequent intervals.

To be especially recommended are predigested beef, or beef and bread; peptonized milk, milk with Vichy or lime water; kumyss, matzoon, egg albumen with water, whey, light broths of different kinds, meat jellies, curds, beef juice. Limit the amount of liquids taken at and even between meals. All spirituous liquids should be avoided, save when the habit of life admits of a small quantity of diluted light wine (light Moselle or claret). Aerated waters should be used with care and no cold fluids of any kind taken. As to solid food, the avoidance of excess of starches, sugars, and fat is urgent, but to recommend the suppression of carbohydrates is to leave the system in a

materially weakened condition, and without its main source of muscular energy.—H. N. HEINEMAN.

Increase nitrogenous and decrease carbohydrates. Mixed diet. Liberal potations in lithæmia, but not with the meals.

When practical substitute aromatic spirits of ammonia for alcohol. Prohibit tobacco and usually coffee and tea.—SATTERTHWAITE.

Avoid overdistention by flatulence. Avoid starches and sugars, and give food often but in small quantities.—W. G. THOMPSON.

In Senile Heart.—1. There must never be less than five hours between each meal. 2. No solid food is ever to be taken between meals. 3. All those with weak hearts should have their principal meal in the middle of the day. 4. All those with weak hearts should have their meals as dry as possible.—BALFOUR.

Heart, Acute Dilatation.

Acute dilatation of the heart may arise from overexertion, as in wrestling, boating, bicycling, violent effort, and the like, or from overindulgence in alcoholics.

DIAGNOSIS.—There are usually œdema, pallor, and shortness of breath, following violent pain in the heart region; at the time of undue strain a murmur may be heard, but usually in the tumultuous heart beating none is detected. Percussion, the position of the apex beat, and viewing the heart through the fluoroscope show the enlargement. The extent of the apical stroke as shown by direct vision with the Roentgen rays is of value in the diagnosis of dilatation of the left ventricle.—ABRAMS.

Radiography.—Affix an almost straight wire, extending from the third to the sixth rib at a proper distance from the left sternal border.

Using as a generator either a powerful static machine or an

induction coil of at least 8" spark, you let your machine work so as to produce the strongest *x*-rays at your command, when you may see only the scapula, the ribs, the left part of the spine, or the sternum, not to forget—plainest of all—your wire in front. Having familiarized yourself with your landscape, you now very gradually reduce the brightness of the *x*-rays—in the case of a static machine by reducing the speed—and you will observe the shadow of the heart, extending within or outside your wire. Sometimes you can see a thinner and larger shadow superimposed on a smaller and thicker one, the former representing the heart in diastole and the latter the same in systole.

DIFFERENTIATION.—The disappearance of the murmur after a time is incompatible with rupture of a valve.

PROGNOSIS.—The heart may return to natural size, but recovery is slow.

Arteriosclerosis may result and lead to "fibroid heart."—**HANDFORD.**

TREATMENT.—Rest, warmth.

℞ Spir. æth. comp. ℥ xl.-c.
 Aq. camphoræ vel aq. menth. pip ʒ i.
 At a dose every three hours.

In extreme lividity, venesection, not less than six nor over ten ounces being withdrawn.—**DUCKWORTH.**

To produce catharsis :

℞ Mist. sennæ comp. (P. B.) ʒ iss.
 Tinct. jalapæ (P. B.) ʒ i.

For hepatic enlargement and dropsy :

℞ Pil. hydrarg. gr. ij.
 Pulv. digitalis,
 Pulv. scillæ āā gr. i.

Brandy or gin, ʒ ii.-ʒ iii. in twenty-four hours.

For dyspnœa and insomnia, morphine.

As a diuretic :

℞ Lemonade 0i.
 Cream of tartar 3i.

Diet.—Easily digested, nutritious food.

For most cases digitalis is best; when not under constant observation, strychnine.

Caution.—In aortic reflex digitalis must be guardedly used.
 —DYCE DUCKWORTH.

In idiopathic enlargement of the heart, the Schott treatment, by baths and gymnastics, seems specially serviceable before compensation has become irretrievably lost.—BABCOCK.

When much dilatation obtains, with cardiac arrhythmia, general dropsy, and pulmonary œdema, the infusion of digitalis in ounce doses four times daily should be administered for two or three days; then the permanent dose of a half-grain of the powder may be given thrice daily with benefit for a long time.
 —W. H. THOMPSON.

In acute degeneration of the right cavities, in a heart yet undegenerated, venesection relieves the overstrain.—B. ROBINSON.

It is best to choose the median or median basilic vein.

Heart, Chronic Hypertrophy and Dilatation.

The term dilatation should be reserved for *enlargement of the cavity* of the heart with associated degeneration of the heart walls. *In hypertrophic dilatation* the walls are not degenerated.
 —ADAMI.

DIFFERENTIATION.—*In hypertrophy* the first sound is loud and booming in character, greatly intensified, and accompanied by a heaving impulse against the chest walls. It may or may not be accompanied by a *murmur*. The intercostal spaces are widened, the apex is displaced downward, and its impulse against the chest wall is localized and distinctly visible.

In dilatation the character of the first sound is totally differ-

ent. It is *short and valvular*, and somewhat resembles the **second sound**. The *impulse is diffused*, covers a large space, and the apex of *maximum intensity* may not be found, or it may be seen but cannot be felt. The *pulse* in hypertrophy is **regular and full**. If arterial sclerosis is present, then the pulse is greatly modified. The pulse of dilatation is weak, irregular, and generally rapid.

THE PROGNOSIS in hypertrophy is generally good, while in dilatation it is quite the reverse, and as the dilatation increases the prognosis becomes more and more grave. *Cardiac hypertrophy* is associated with arterial sclerosis and accompanied by the pulse of arterial degeneration. Enlargement of the heart is a common complication of chronic renal disease.—W. H. MCENROE.

TREATMENT.—

For irregular heart action :

℞ Pulv. digitalis..... gr. x.
 Pulv. colchici sem..... gr. xx.
 Sodii bicarb..... gr. xxx.
 M. et ft. pil. No. xx. S. Take one three or four times daily.

—BOWDITCH.

In simple enlargement :

℞ Tr. digitalis..... ʒ iss.
 Ext. ergot. fld..... ʒ iij.
 M. S. ʒ i. thrice daily.

—BARTHOLOW.

The *Schott treatment* is of especial value in simple dilatation without valvular disease.—GREENE.

In *excessive hypertrophy* of sedentary individuals after a life of active exercise aconite acts well. Next to aconite as a sedative comes gelsemium and then veratrum viride.—HARE.

In dilatation :

℞ Pulv. digitalis..... gr. v.
 Ext. belladonnæ..... gr. i.
 Ferri reducti..... ʒ ij.
 M. For xx. pills. S. One t.i.d.

In dropsy caused by dilatation :

℞ Tr. digitalis..... ʒss.
S. Gtt. x. t.i.d.

—DA COSTA.

In dropsy from cardiac disease :

℞ Pulv. digitalis... gr. i.-iss.
Pulv. scillæ..... gr. i.
Hydrarg. cum cretâ, vel pil. hydrargyri..... gr. i.-iij.
M. ft. pil. No. i. S. One pill t.i.d.

—BAILLIÉ.

In hypertrophy with dyspnœa, ascites, œdema, and grave disturbance of the circulation :

℞ Hydrarg. chlor. mit..... 1.5 gm.
Pulv. sacch. alb..... q.s.
M. ft. chart. No. xv. S. One every two hours, or six daily for two or three days ; after this one or two powders a day.

Subsequently give potassium iodide.—MALDARESCO.

In the abstract, *digitalis is applicable to any cardiopathic state in which dynamic failure of the cardiac muscle is present*, without any reference to the primary cause from which such failure is developed.

It is not only useless but harmful in the heart irregularities following influenza.—SANSOM.

In aged persons, who present signs of dilatation with degeneration of the ventricular walls, with shortness of breath and dropsy, when digitalis and strophanthus have ceased to be of benefit, caffeine deserves to rank next as a cardiac tonic.—LITTLE.

Heart, Fatty.

DIAGNOSIS.—There is no certain sign of this condition. General state of patient, condition of heart sounds, rhythm (irregularity of pulse is the rule), etc., aid in diagnosis.

DIFFERENTIATION.—Fatty degeneration cannot be differentiated clinically from fatty deposit.

PROGNOSIS depends on degree, and the condition of patient.

TREATMENT.—

R Sodii arsenat..... gr. $\frac{1}{4}$
 Potass. iodidi..... gr. $\frac{1}{2}$
 Pulv. nucis vom..... gr. $\frac{1}{2}$
 Pulv. rhei..... gr. $\frac{1}{2}$
 Ext. dulcamaræ..... gr. iss.
M. et ft. pil. No. i. S. One pill daily.

—A. ROBIN.

R Extracti cimicifugæ fld.,
 Syr. acaciæāā $\frac{3}{4}$ ss.
 Aquæ amygdalæ amaræ $\frac{3}{4}$ iij.
M. S. 3 i. every three hours.

—ELLIS.

In fatty heart, dilatation of cavities, and mitral regurgitation with anæmia:

R Ferri reducti ʒi.
 Pulv. digitalis fol. (Eng.) ʒi.
 Quininæ sulphatis..... ʒi.
 Pulv. scillæ..... gr. x.
M. ft. massa et in pil. No. xx. div. S. A pill three or four times daily.

—BARTHOLOW.

Heat Exhaustion.

There is here a moderate degree of weakness occurring in those who have been under excessive bodily strain during periods of great heat or in overheated quarters.

DIAGNOSIS.—There are at first dizziness or at times loss of sight, profuse cold perspiration, and marked pallor, with loss of consciousness, which is partial or complete. The bodily temperature is decreased below the normal, even to 95° F.—H. C. FLOOD.

DIFFERENTIATION.—The extreme adynamia with feeble pulse and subnormal temperature distinguishes the condition from unconsciousness in which the unconsciousness is often profound and the temperature extreme.

The distinction from heart failure or the syncope of concealed hemorrhage is made by the greater fall in the bodily temperature in heat exhaustion.

PROGNOSIS.—Recovery is the rule.

TREATMENT differs decidedly from that of heat stroke. While digitalis and strychnine may be given with benefit, as indicated under the latter condition, cold baths are naturally contraindicated, and in their place heat is to be applied with friction of the body, the application of hot water, warm baths, etc. Stimulants may be administered by the mouth or by injection. Cold cloths may be applied to the head and hot cloths to the feet. Restore the temperature and give alcohol and diffusible stimulants hypodermatically if necessary. (See also "Sun-stroke.")

Hydatid Disease.

The echinococcus or larva of a *tænia* occurring in the dog tribe may affect the lungs, peritoneum, liver, kidneys, and other tissues of the human body.

The first symptom may not arise until after a cyst, resulting from embryo invasion, has attained such a size as to produce signs of pressure.

DIAGNOSIS.—Tumors due to this cause are painless, untended with disturbances of nutrition, and are of habitually slow growth. The employment of an aspirator to draw off the fluid which contains scolices or hooklets confirms the diagnosis. The fluid in which these bodies float, while free from albumin, contains sugar and succinic acid.

Rupture of a cyst, or leakage into the tissues at time of aspirating, may cause fever and an urticarial eruption, or may produce dyspnoea and collapse.

DIFFERENTIATION.—A large hydatid of the back starting from the spinal column, which had been looked upon as a sarcoma by several observers, was successfully operated upon recently by my friend, Dr. Samuel Lloyd.

Hydatid of the liver gives a circumscribed tumor, which is at times to be distinguished from amyloid degeneration and from

cancer only by the use of the aspirating needle, and from cirrhosis with enlargement by the absence of persistent jaundice.

Subphrenic abscess may be simulated by suppurating hydatid, both in its symptomatology and physical signs. The discovery of characteristic elements in the drawn-off fluid naturally excludes all other growths, both cystic and solid, which occur in this region.

Hydrothorax is almost absolutely counterfeited by hydatids of the pleural cavity.

Tuberculosis is simulated by echinococcus of the lungs, especially in the upper lobe, even to the occurrence of hæmoptysis. The absence of bacilli differentiates while their presence does not exclude echinococcus, since the two conditions may coexist.

TREATMENT.—Cure may result from aspiration, particularly when the cyst is so situated that it can be removed; operation usually proves successful.

Hydrocephalus, Acute Idiopathic.

When of benign character it is usually a meningitis serosa interna, following a meningitis serosa externa.

DIAGNOSIS.—Its recognition is possible with certainty only after noting the results of evacuation of the cerebro-spinal fluid.

DIFFERENTIATION.—From purulent meningitis or brain abscess, tuberculous meningitis, and tumor by sudden total and permanent disappearance of symptoms after operative evacuation of cerebro-spinal fluid.

PROGNOSIS.—Recovery may take place spontaneously.

TREATMENT.—Evacuation of cerebro-spinal fluid.—**BOENNINGHAUS.**⁷

Hydrocephalus.

When enlargement of the head does not begin until some time after birth, there is partial or absolute dulling of the mental

faculties. When the child is some months of age the increase of fluid, taking the place of brain tissue, stunts the mental development. If, however, the progress is a slow one the child may show intelligence in many directions but will belong in the class of idiots. Acute hydrocephalus is a concomitant of meningitis. (For the more rare acute idiopathic form see page 449.)

DIAGNOSIS.—Chronic hydrocephalus has its chief objective characteristic in the disproportion between the enlargement of the cranium and the smallness of the face. The fontanelles bulge and the sutures are separated.

DIFFERENTIATION.—In rhachitis the shape of the head is square. If the anterior fontanelle is prominent it is only temporarily so, and there are evidences of rachitis in other portions of the bony structure.

In *leontiasis ossea* the enlargement is due to a thickening of the bones themselves.

In acromegaly the hands and feet are likewise enlarged.

In cephalic hypertrophy the enlargement is at the back of the head and there is no exophthalmos.

TREATMENT.—*To relieve pressure symptoms* in acute hydrocephalus, tap the vertebral canal (see "Tuberculous meningitis"). —QUINCKE.

In chronic hydrocephalus, tapping the canal is a safer procedure than tapping the ventricle.—CAILLÉ.

In tapping through the open anterior fontanelle, keep to one side of the middle line to avoid the superior longitudinal sinus.

If much fluid is removed, follow by pressure on the skull.

R Sodii iodidi.	2.0-4.0
Aquæ destil.	90.0
Tinct. valerian.	gtt. xx.
Syr. simplicis.	10.0
M. S. Tablespoonful every two hours.	

—MONTI.

Hydronephrosis.

Cystic tumor of the kidney or a state of distention of the pelvis by urine or non-purulent fluid may be so large as to make the tumor the most prominent symptom. This is fluctuating, and there is usually an inverse ratio between its size and the amount of urine passed. It may attack both kidneys coincidentally or in succession.

DIAGNOSIS.—The pathognomonic sign of fluid fluctuating tumor of the kidney pelvis showing in the loin or abdomen is the fact that it decreases in size after a copious discharge through the bladder.

DIFFERENTIATION.—The absence of fever as well as the urine's freedom from pus shows the case to be not one of pyonephrosis. From hydatid cysts it is distinguished by the absence of fremitus and the further fact that the tumor does not move with respiration, as does the hydatid.

As between kidney tumor and ovarian cysts, the fact that the tumor lies behind the colon points to kidney origin. The colon may be inflated to make this diagnostic point possible. Puncturing the cyst will give valuable aid only in recent cases, since older kidney cysts contain a fluid which has the same general characteristics as that of an ovarian cyst. Intermittent hydronephrosis gives a tumor in the region of the kidney, attended with pain, nausea, vomiting, and scanty urine. Here, too, the tumor decreases as the urinary flow becomes abundant.

Pyonephrosis is diagnosticated when evidences of pus are found.

TREATMENT.—Massage is to be applied in the region of the loin when there are signs of obstruction of the ureter. The bladder may be distended with sterile water to favor passage of a calculus from the ureter.

If these means fail, aspirating the tumor may give not only

temporary but permanent relief. Lumbar incision is regarded by many as preferable to nephrectomy.

Hydrothorax.

DIAGNOSIS.—The diagnosis from pleurisy with effusion is made by the affection existing on both sides, in the absence of fever, and being accompanied by general anasarca.

DIFFERENTIATION.—*Pyothorax* can be distinguished from non-purulent accumulation by the aspirating needle alone. Peptones are found in the urine in other conditions as well.

TREATMENT is to be directed toward the disease of which this is a symptom, while aspiration may be resorted to for temporary relief.

Hyperæmia of the Brain.

Cerebral hyperæmia, as the term is usually employed, is almost synonymous with asthenia or exhaustion of the brain from overwork.

DIAGNOSIS.—Headache attended with ruddy hue of the face, pulsating carotids, vertigo, mental confusion, and somnolence or sleeplessness are the prominent symptoms.

DIFFERENTIATION.—In chronic emphysema, cardiac disease, mediastinal tumor, etc., the same symptoms are present from circulatory disturbance and the retention of carbonic-acid gas.

Apoplexy is simulated when the symptoms come on suddenly and are followed by unconsciousness.

Extreme congestion of the brain, as after violent emotion, may be followed by the rupture of a vessel.

TREATMENT.—When apoplexy is simulated, bleeding from the arm. Leeches behind the ears. Cupping to nucha, purging. The free use of lithia water.

Hysteria.

Either succeeding a feeling such as of a ball passing up from the stomach into the throat, or without any preceding symptom of note, the subject, usually of the female sex, becomes suddenly agitated, has violent muscular contractions, or may fall in a seizure somewhat closely resembling that of epilepsy.

DIAGNOSIS.—In the milder forms there is a succession of alternate sobbing and laughing, and this may be succeeded by a state of apparent insensibility, in which the patient lies motionless for hours and perhaps even for days or weeks.

In the preconvulsive period there may be an *aura*. Consciousness and memory are intact in this period, while in the convulsive they are abolished.

An almost constant sign both in hysteria with depression and in hysteria with erethism is said to be complete or partial abolition or marked diminution in the reflex excitation of certain points, such as the external auditory canal, the nasal fossa, lower lid, and skin of forehead, when tickled with a hair or other delicate substance.

Hysterical contractures and palsies are especially observed in convalescence from acute and chronic disease in childhood. Spasms of screaming alternate with spasms of crying or laughing, and jactitation of the extremities occurs.—JOLLY.

DIFFERENTIATION.—Severe attacks are to be distinguished from epilepsy, and this is done by noting that, in hysteria, the unconsciousness is only partial or apparent and comes on gradually. The face, instead of being deathly pale, is flushed or dusky. The tongue is not bitten and there is no frothing at the mouth. The paroxysms last longer, the movements are irregular, and made as though with some purpose. The attack rarely occurs at night, while the epileptic seizure is frequent at this time. At the onset of the fit sounds if made at all are

prolonged and not like the quick cry which accompanies the fall in true epilepsy. In coming out of the attack the hysteric is depressed, while the epileptic is dull and either has headache or is inclined to sleep. The distinction between true and feigned hysteria is often quite a difficult matter.

Besides the typical attack we may have various phases of hysterical disease, such as hysterical fever, in which the temperature goes to unusual heights, 112° F.—A. A. SMITH.

All human-body temperatures above 117° F. are instantly incompatible with life.—W. G. THOMPSON.

Extraordinary emotionalism is the first thing that strikes us in the hysterical (males equally with females).—MAX NORDAU.

Perityphlitis may be so closely mimicked by hysteria as almost to lead to operation. Absence of fever is suspicious. In traumatic hysteria the symptoms do not as a rule come on at once, but, as it were, after a period of incubation. They are not on this account to be looked upon as feigned.

PROGNOSIS.—Almost all forms are amenable to proper treatment. The predisposition may have to be combated for many years.

TREATMENT.—To break up or prevent an attack and in hysterical coma, apomorphine, gr. $\frac{1}{16}$, hypodermatically.

R Acid. arsenosi	gr. ss.
Ferri sulphat.,	
Ext. sumbul.....	55 gr. xx.
Asafetidæ.....	gr. xl.
M. ft. pil. No. xx.	S. One t.i.d. p.c.

—GOODELL.

Hysterical Aphonia.—Introduce a sound into the larynx far enough to produce spasm. Then have the patient repeat a few letters, count, and articulate simple words. When rebellious, treat by electrization of the larynx, massage, tongue traction, psychical measures.—BOULAY.

Ethyl-chloride spray to the nucha until a spot of the size of a silver dollar is frozen.—KEBBELL.

Hysterical hæmoptysis in men is not at all influenced by ergot, ice, astringents, etc. Treat the neurosis. Good results follow hypnotism.—LAURENT.

Hysterical dysphagia simulating stricture or confounded with œsophageal spasm, with pain, constriction, and sensation of foreign body, is relieved by the frequent passage of an olive-tipped bougie.

The electric sound should be avoided.—A. COOLIDGE, JR.

Hysterical gastralgia, giving exquisite sensitiveness over the stomach, is to be confounded only with that of severe acute gastric catarrh.—STICKER.

In young girls with "laughing hysterics":

℞ Tinct. opii deod. 3 iss.
 Tinct. castorei (Fr. Cod.)..... 3 iiss.
 Tinct. valerian. ammon.,
 Spir. æther comp.....āā 3 vi.
 M. S. 3 i. every two hours in water.

—GERHARD.

For excitability and various forms of distress occurring at night in persons between the ages of fifteen and twenty-five years:

℞ Extr. valerian. fld..... ʒ ij.
 Extr. scutellarie fld..... ʒ iss.
 Extr. hyoscyami fld..... 3 iv.
 Ammon. bromidi..... 3 v.
 M. S. 3 i. diluted with sweetened water early in the morning, at teatime, and at bedtime.

—DAVIS.²³

℞ Camphor. monobromat.,
 Extr. valerian.....āā 3.0
 M. ft. pil. No. xxx. Obduc. fol. argent. S. One pill t.i.d.

—KRAFFT-EBING.

In hysterical spasm of the diaphragm simulating chorea, try hypnotic suggestion.—BERDACH.

For the relief of the vasomotor instability resultant in the various emotional states, zinc and other valerianates are often

useful. Against this condition, and the erotism, camphor monobromate is frequently beneficial.

To secure slumber, the non-existence of which should first be ascertained, trional, phenacetin, and sulphonal, rather than chloral or morphine, should be used.

For the relief of the pseudo-anginas, glonoin or strychnine is of value. In the convulsions of grave hysteria, the hypodermic administration of apomorphine will often prove beneficial, or glonoin, or the inhalation of amyl nitrite may prove equally valuable.

Hysterical aphonia and deafness have frequently been removed by amyl nitrite.—GEO. F. BUTLER.

Hystero-Epilepsy.

It is only in the typical instances that one differentiates readily this condition from true epilepsy.

The attack occurs in the night or early morning; the patient suddenly falling with a cry, followed by loss of consciousness, urination, and biting of the tongue.

After an attack there are stupidity and fatigue. The discovery of stigmata of sensibility of a permanent character is of much value, but while they may be absent, it must be remembered that epileptics occasionally show disordered sensation. When hysterical symptoms, such as the globus hystericus and areas of hyperæsthesia, have preceded the attack, they throw light upon its nature. The attack is usually longer than that of true epilepsy and the relaxation of convulsive spasms is gradual.

If contorted motions and cataleptic postures succeed the paroxysms, the hysterical nature is most strikingly suggested, especially if delirium and hallucinations persist after the return of consciousness.

TREATMENT.—*To cut short an attack*, duboisine sulphate, gr. $\frac{3}{500}$ (Albertoni); gr. $\frac{3}{250}$ (Belmondo); gr. $\frac{1}{8}$ (Samuely).

Influenza.

In grippe the onset is sudden and ushered in with chill, sometimes with delirium or marked nervous symptoms. There are pronounced weakness and intense pains in the back and extremities. The symptoms in the many varieties described vary with the type present. One must depend chiefly upon the presence of the disease in its epidemic form to distinguish mild attacks from ordinary catarrhal affections, and upon the preponderance of typhoidal, muscular, nervous, cardiac, or gastro-intestinal symptoms to give it the proper classification. In the pulmonary form there are high fever, vomiting, headache, occasionally nose-bleed, and decided prostration. Extreme nervous prostration is not unusual. The varied symptoms at the onset in infancy (including febrile, gastro-intestinal, nervous, and thoracic) make the diagnosis quite difficult. The initial temperature is very high but tends to fall quickly. In nearly every case fine dry râles can be heard at the base of the lungs posteriorly—especially on the left side.—MANGES.

DIFFERENTIATION.—Influenza differs from simple catarrhal affections in that the fever, malaise, and general symptoms which precede the local manifestations are out of all proportion to the extent of the latter. Miliary tuberculosis, typhoid fever, and meningitis may be simulated, especially in infancy.

The rash, beginning upon the neck on the second day, brightest on the uncovered parts, in association with "strawberry tongue," may simulate scarlet fever.

In deceptive cases draw a drop of blood from the finger into a tube, plug with cotton, and lay aside for twenty-four hours. It will now show a culture of diplo- and strepto-bacilli characteristic of grippe, extremely motile, and easily visible with a 600 diameter microscope.—CORONADO.

Fever due to influenza occurring in the puerperal period

must not mislead. The pulse does not usually exceed 100-120, even with the highest temperatures. The tendency to multiple relapses appears to be a feature of this form. Epidemic prevalence may be the greatest guide.—STOLZ.

PROGNOSIS depends upon the age and previous condition of the subject, the freedom from complications, and the care exercised during and after the attacks. It is more serious in the extremes of age. The majority of cases ending fatally are those in which the patient unduly exposes himself.

One attack does not confer immunity. In some instances it would appear to predispose to others.

The vagueness of its pathology renders definite rules of therapy difficult.

TREATMENT.—*To abort*, hydrarg. chl. mit., 0.10 cgm. twice daily, in first or second day of attack. If fever does not subside, wet packs to the thorax.—FREUDENTHAL.

To reduce the fever and bring about free perspiration :

℞ Antipyrin..... gr. xv.
 Pilocarpinæ hydrochlor..... gr. ss.
 Tinct. aconiti gtt. viij.
 Aquæ ʒ iss.

M. S. One tablespoonful followed by a general hot bath or a foot bath of ten minutes' duration; the patient being covered warmly in bed.

One dessertspoonful of hot toddy, repeated in twenty minutes if sweating has not occurred.—WOOD AND FITZ.'

In the gastro-intestinal forms, very restricted diet (boiled milk), counter-irritation over the abdomen (spice plaster, see page 236).

℞ Sodii sulphitis ʒ iv.
 Aquæ..... ʒ vi.

M. S. A teaspoonful in as much water every two hours till all pain is relieved and the patient is well.

—MONELL.

When there is intolerance for quinine, bichloride of mercury in minimum dose.—FRANCIS.

Creosote, fifteen to seventy-five minims daily.—ISELIN.

Or—

℞ Spir. camphoræ ʒ ss.
 Ol. caryophylli..... ℥ xxx.
 Chloroformi..... 3 iij.
 Tr. opii deod..... 3 ij.
 Tr. capsici 3 ij.
 M. S. Gtt. xxx.-xl. in water every hour or two.

—WOOD AND FITZ.' .

In profound adynamia, musk, gr. v.; hypodermic injection of brandy, ether, or strychnine.

To spray the nasopharynx :

℞ Camphor,
 Menthol. ãã gr. xx.
 Acid carbol. purified 3 ss.
 Albolene ʒ iv.
 M. S. Several times daily.

Stimulating tonics, bland nutrients, rest, and if possible change to a warm climate.

In the pneumonia of influenza or in gastro-intestinal forms with feeble, small, and rapid pulse:

℞ Digitalin 0.001
 Aq. dest gtt. 50

Give early a single massive dose, and no more medicine for five or six days. Or, twenty drops daily for two days.

Apply once in four hours a warm wet compress around the chest.—MANGES.

Dry cupping; aconite for aching in the limbs.

℞ Ext. aconit. (solid)..... gr. ʒ
 Pulv. Doveri..... gr. i.
 Phenacetin gr. viij.
 Quininæ gr. vi.
 M. ft. pil. No. ii. S. Give six the first day.

—THOMSON.

℞ Acetanilid..... 3 i.
 Spir. vini rect..... q.s.
 Tinct. gelsemii 3 ss.
 Syr. zingiberis..... q.s. ad ʒ ij.
 M. S. Teaspoonful every two or three hours.

Potassium bicarbonate, gr. xxx. in milk or water every ~~four~~ hours, is almost a specific.—HARSHERGER.

In the respiratory form to relieve chest oppression and con ~~gh~~:

R Ammon. carb..... gr. v.-i.

in two ounces of milk.—WILCOX.

With Circulatory Asthenia and Arterial Hypotension. —

Daily intestinal lavage, after which 5 c.c. of the following ~~can~~ be injected:

R Caffeinæ,

Sodii benzoat ãã 10 gm.

Aque bul..... ad 100 c.c.

—GRASSET.

Phenacetin can be combined with quinine to act as a true antitoxin.

Caution.—Too free use of coal-tar products may favor albuminuria.

When miliary tuberculosis or typhoid is simulated, the above acts in differentiation by causing defervescence, which will not occur in either of the named conditions. If the pulse is not brought down and the condition ameliorated, there is reason to believe that an error in diagnosis has been committed.—GINGEOT AND DEGUY.

In bradycardia the effects of digitalin may be less certain, but it seems not to be contraindicated.

To relieve painful inflammation of the larynx and bronchi and many other symptoms:

R Pulv. Doveri,

Quin. sulph..... ãã gr. ij.-iv.

Pulv. hyoseyam. fol..... gr. †

M. ft. pil. seu cachet No. i. S. One or two daily.

—LIÉGOIS.

For the severe neuralgic and muscular pains, headache, etc.:

R Caffeinæ citratis gr. viij.

Acetanilid,

Lactopeptone..... ãã 3 i.

M. et div. in chart. No. viii. S. One every three hours.

—L. F. DONOHUE.

When attended with mental and physical depression :

- ℞ Spirits of camphor,
Compound tincture of lavender..... āā ℥ ij
Spirits of chloroform..... ℥ i
Mucilage of tragacanth..... ℥ i
Distilled water..... ℥ iij.
M. S. Tablespoonful every four hours.

—DEVEREUX

In nervous disturbances of the heart, sodium sulpho-carbolate, gr. xx.-xxx. every two, three, or four hours, according to the severity; liquid diet; alcohol cautiously; brandy in dessertspoonful doses every three or four hours; phenacetin or antipyrin unless profuse perspiration or signs of nervous prostration contraindicate it.—SANSOM.

- ℞ Quinina sulph ℥ i.
Pulv. digitalis
Pulv. scillae..... āā gr. xx
Extr. opii gr. v.
Extr. glycyrrhizæ..... q s

M. et ft. pil No xxx S. Take a pill four times daily.

—PEPPER.

- ℞ Potass. nit ℥ i
Spir aether. nit. ℥ iv
Liq ammon. acet..... ℥ iss
Aquæ q s. ad ℥ vi

M. S. ℥ ss with ℥ i of water every four hours.

Take for four days and follow with quinine as a tonic.—
MORELL MACKENZIE.

To Allay the Cough.—Heroin in small doses combined with terpin hydrate or iodide of potassium.—MANGES.

Malto-verbine.—A. H. SMITH.

In the febrile form :

- ℞ Sulphate of quinine,
Extract of cinchona..... āā gr xxx.
Extract of aconite root..... gr iss.
M Make a mass, and from it twenty pills. S. Take three pills twice daily.

In pronounced catarrhal and inflammatory symptoms :

- ℞ Dover's powder,
Powdered squill,
Sulphate of quinine..... āā gr xxx
M. For twenty powders. S. Four or five to be taken daily.

In vomiting and much epigastric pain :

℞ Bicarbonate of sodium,
 Calcined magnesia,
 Salicylate of bismuth... .āā gr. v.

M. For one powder. S. Three to five powders daily.

—HUCHARD.

In an uncomplicated case :

℞ Pilocarpinæ hydrochloratis..... gr. ss.
 Morphinæ sulphatis..... gr. $\frac{1}{2}$
 Aquæ..... $\frac{3}{4}$ ij.

M. S. 3 i. every fifteen minutes till diaphoresis.

Follow this treatment with quinine.—H. C. WOOD.

When muscular symptoms are pronounced :

℞ Sodii benzoatis..... 3 ij.
 Salol..... 3 i.
 Phenacetin..... gr. xxxvi.

M. ft. chart. No. xii. S. One every four hours.

In infancy :

℞ Phenacetin..... gr. iss.
 Pepsin..... gr. ij.
 Calomel..... gr. $\frac{1}{8}$.

To be given every two or three hours to a child of two years.

In children :

℞ Sodium benzoate,
 Salol,
 Acetanilid.....āā gr. iss.
 Caffeine..... gr. $\frac{1}{2}$

S. One such powder every three hours to a child of six years.

—SHEFFIELD.

℞ Tinct. aconiti..... gtt. v.-x.
 Sodii benzoat..... 1-3 gm.
 Syr. lactucarii..... 5-10 "
 Syr. aurant. flor..... 20 "
 Mucil. acac..... 120 "

M. S. Dessertspoonful every two hours.

—PÉRIER.

℞ Antipyrin..... 1 gm.
 Aquæ laurocerasi..... 2 "
 Syr. tolu..... 40 "
 Aq. destillat..... 60 "

M. S. In three or four doses during the day.

—COMBY.

I consider phenacetin the safest and best remedy.—B. M. SMITH.

When the neuralgic element predominates, quinine hydrobromate, 0.25 cgm., every four hours.

Or, salophen, gr. v.–vi. as a daily dose (gr. ss. in a delicate subject, at first every two or three hours).—DREWS.

In succeeding multiple neuritis, absolute rest, anodynes, codeine, cinchonidine salicylate. Blisters when pain is in superficial nerves. Watch heart and respiration, keep up nutrition. In later stages potassium iodide and mercuric chloride in small doses.—ALLYN.

Insanity.

It is the general practitioner who usually must make the early diagnosis of mental unbalance, or by discovering evidences of impending mental defect institute means of averting such disaster. The majority of patients suffer from depressional forms and are amenable to home treatment.

DIAGNOSIS.—The history of antecedent taint is not always obtainable, but patients will often acknowledge family neurotic tendencies.

There is usually a state of unrest, nervousness under examination; the complexion in those already insane or about to become so is rarely clear. Inactivity of the thumbs in writing, drawing, saluting, and the like is, according to Burton Ward, an infallible symptom, even when the subject speaks and acts rationally.

The objective and subjective signs must be compared with those of the patient in his former state of health. Radical and prolonged alteration in the mental state and outward act, and especially decided change in morals, should lead to close observation.

In the prodromal stage there may be unaccountable disturbance of gastro-intestinal function as well as mental unbalance.

Delusions in mental disease may be divided into the following: Delusions of satisfaction, of grandeur, of riches; delusions of humility, despair, ruin, culpability; delusions of persecution; hypochondriacal delusions; religious delusions; erotic delusions; delusions of bodily transformation.—BALL AND RITTI.

Failure to apply experience deliberately or automatically as a guide to action indicates morbid mental conditions.—ROGERS.

DIFFERENTIATION.—We must distinguish first between true insanity and congenital mental defect; the temporary mental symptoms of various constitutional diseases, the effects of certain drugs, alcohol, etc.; and secondly, between the different forms of insanity itself. Of the latter we have mania, melancholia, dementia, general paresis, and paranoia.

PROGNOSIS.—With correct management from the start, nearly all cases of insanity unattended by paralysis or physical decay may be cured.—SAVAGE.

TREATMENT.—*Thyroid feeding* gives good results in many instances.

Among other ill effects sexual excitement leading to masturbation has been noted during the use of this drug. Transient albuminuria occurs in ten per cent of those treated.

It would seem especially applicable in a form of mental disturbance occurring at the climacteric, with depression, anxiety, morbid fears, but without delusions or insomnia.—STARR.

No case should be allowed to become incurable without a trial of this method.—CLOTSTON.

Caution.—It is not unattended with danger . . . and may influence the future mental powers of the subject.—BERKELEY.

In gouty subjects colchicum or other measures directed against the diathesis may cure the insanity.

Moral treatment with constant skilled attendance is efficacious but expensive.

In meningeal insanity (acute mania, maniacal epilepsy) as a cerebral depressant, scopolamine, gr. $\frac{1}{16}$. Inject.

ACUTE MANIA.

Almost invariably there is an early stage of depression, just as in melancholia we habitually find excitation among the early manifestations.

DIAGNOSIS.—Rambling in confused conversation; inability to keep up a sustained train of lucid thought; exaggerated ideas; evasive answers; moral changes; abnormal ideas and acts which are justified by the subject; perhaps delusions; rapid and unnaturally brilliant but varying talk.

Subsequently abusive, violent, filthy in talk and habits; destructive, delusions, hallucinations.

The evanescent character of the facial expression is marked; its variability and abrupt transition are characteristic. At one moment sorrow, distraction, anger, or fear may be depicted, to be superseded with lightning rapidity by an expression of intense joy and laughter, of contentment or of bravado. The particular emotion expressed is always strongly depicted. The patients are frequently very loquacious, and prone to mimicry and grimaces. The eyes are bright, the pupils vacillating, the conjunctivæ often injected.

DIFFERENTIATION.—In acute delirium fever is always present; the patient is often in a stuporous or semicomatose condition, and reacts but slightly or not at all to external stimuli; in acute mania there is sleeplessness, the patient is active and “wide awake.”

From melancholia by the mind and memory being clear in the latter and judgment good on matters not connected with self.

In meningitis there is intolerance to light, the pupils are contracted, and the temperature may be elevated.

PROGNOSIS.—In acute delirious mania, if the patient lives, he will almost certainly recover. In the first attack almost all get well.

If hereditary, chronic mania or dementia follows.—BLAND-
DED.

TREATMENT.—Remove to an institution, if possible in the
country, where outside exercise and supervision are a possibility.
Mechanical restraint and overdosing with drugs are both harm-
ful.

R Sulphonal gr. xv.

Sodii bicarb. gr. iv.

M. S. One dose. Repeat up to three times daily. In rebellious instances
give up to seventy-five grains daily.

—KADT.

*In violent and abusive patients, give hyoscine, gr. $\frac{1}{100}$.—
WEATHERLY.*

*Or, continuously during the acute stage, hyoscine, gr.
 $\frac{1}{100}$ — $\frac{1}{50}$ three or four times daily.—GALBRAITH.*

Or, duboisine, gr. $\frac{1}{100}$ — $\frac{1}{50}$ hypodermatically.—MASSANT.

Gr. $\frac{1}{10}$.—GUBLER.

*In wild delirium, daturine, gr. $\frac{1}{100}$ — $\frac{1}{50}$, hypodermatically,
or hyoscine hydrobromate, gr. $\frac{1}{100}$.*

R Tinct. cannabis indicæ 3 i.

Potass. bromidi 3 i.

Aquæ. q.s.

M. S. At dose three times daily.

As hypnotic, paraldehyde, 3 ss.—3 i.

*To quiet muscular activity, coniine, ℥ ss.—℥ iii. Inject
hypodermatically.—RINGER.*

*To quiet excitement, ext. ergotæ fld., 3 ss.—3 i.—CRICHTON
BROWNE.*

Or, tinct. gelsemii, ℥ xv.—xx. at dose.—POTTER.

*After confinement, ext. cimicifugæ racemosæ fld., gtt.
xx.—xxx. t.i.d.*

*In violence not otherwise restrained, apomorphine, gr. $\frac{1}{10}$,
hypodermatically while subject is held. This produces vomit-*

ing and relaxation of muscles. Anæsthesia, morphine, cold douche to head, and hot bath to body.—HARE."

MELANCHOLIA.

This form of insanity may be acute or chronic. A gradual onset may be one of the features pointing almost equally to neurasthenia with depression and insomnia.

DIAGNOSIS.—The predominant symptom is one of gloomy despondency accompanied by apathy, lack of desire or inclination beyond that connected with an absorbing introspection. In the severer forms, instead of the quiet dejection, there will be moaning with anguish depicted upon every feature and bodily movement indicative of intense psychical suffering. Here, contrary to what is found in the milder forms, delusions occur after a time and possibly also hallucinations, preserving, however, the type of melancholic depression. The general health suffers and there is progressive loss of strength and weight. Defective assimilation is a characteristic feature. The delusions follow some particular form either of a religious or other nature. There is frequently pericardial anguish in the early morning or tendency to suicidal attempt, which seems to be more frequent at this period of day.

The facial expression is usually characteristic; the complexion is pale, often sallow; the muscles, especially those of the lower half of the face, are flaccid; the angles of the mouth droop, giving the face a longer appearance than ordinary. The forehead is wrinkled, the head bowed forward, the eyes have a distant look. Somatic stigmata, such as facial asymmetry, are usually absent; when present the prognosis is more serious.

The facial expression varies; anxiety, sadness, despair, gloom, distrust, fear, indifference, or inertia may be depicted.

A facial expression of anxiety, restless worry, or jealousy is often one of the first objective signs.—JAMES SHAW.

PROGNOSIS depends upon the mildness or severity of the form, the personal antecedents, and the possibility of keeping up nutrition. A large percentage of patients is susceptible of cure. Recurrences have to be anticipated.

TREATMENT.—In home treatment secure absolute control over the patient's personal and domestic life. Have a nurse or attendant constantly present, preferably one with special training. Isolate. In debilitated patients secure partial enforced rest by having them remain abed, until ten, eleven, or twelve o'clock. Diet must be nutritious, and if necessary enforced by means of stomach or rectal tube, the former introduced through the nostril. Relieve insomnia, visceral derangements, and psychic pain with appropriate drugs.

For the relief of psychical pains, ext. opii aq., gr. $\frac{1}{8}$ — $\frac{1}{8}$, three or four times daily.—W. B. PRITCHARD.

Deep injections of ether into the buttock.—SHEPHERD.

In motor or excited melancholia, tr. opii deodorat., ℥xv.—xx., gradually increased until ℥xl. or ℥lx. are given three times a day.—NUCKOLLS.

℞ Moschi optimi..... 3 iij.
Tinct. castorei (Fr. Cod.)..... ʒ iss.
Syr. zingiberis..... ʒ i.
Aquæ destill..... q.s. ad ʒ vi.
M. S. 3 ii. t.i.d.

—E. J. CLARK.

℞ Camphoræ,
Extr. hyoscyami..... ʒ gr. xlv.
M. et ft. pil. No. xl. S. Two pills t.i.d.

—GOOCH.

In extreme sensory irritability, rest in bed, isolation, food rich in fats.—RAYNER.

Thyroid feeding has given some good results.—B. W. STONE.

Insanity in women, due to mental worry or moral shock:

℞ Tr. cannab. ind ℥ x.
S. Three times daily.

This is almost a specific, and is of great value as well in mania.—SUCKLING.

Opium is the most generally useful of all drugs in insanity. It has a direct influence on the mind, antithetical to the painful emotional state of melancholia and to the persecutory delusions of monomania.—SPITZKA.

Strict attention must be paid to digestion and the atonic state of the bowels so frequently encountered.

For the indigestion :

℞ Bismuthi subgallat gr. v.-x.

Or—

℞ Salol gr. ij.-v.

When the bowels have become regular and the digestion is good, see that large amounts of nourishing food are taken.

For sleeplessness, hyoscine, gr. $\frac{1}{100}$, often does good service.

A glass of dry wine or eggnog will often dispose the patient to sleep.—H. E. ALLISTON.

℞ Sol. auri et arsenii bromidi ℥ x.
S. Inject three times daily.

In suicidal form give gold; in the aged give arsenic.

℞ Liq. potass. arsenit. ℥ ij.
Tinct. opii. ℥ iiij.-v.
To be given three times daily.

—BARTHOLOW.

PARANOIA.

By this general term are understood certain chronic forms of insanity, primary in origin, in which a systematized delusion dominates the subject. The erotic, inventive, reformatory, and religious are some of the types met with. The course is chronic. Volition is little or not at all impaired. The emotional faculties are preserved, but delusions pervade the whole personality. In the progressive stages there is an ever-widening deviation from the normal type. At first the subject

may appear only somewhat unbalanced, but delusions of persecution are soon apt to show themselves. The paranoiac may be perfectly rational and appear sane until his hobby is brought out.

The facial expression varies with the kind of delusion. Granted the truth of the delusion or delusions, the facial reaction is normal.—JAMES SHAW.

DIFFERENTIATION.—The ambitious or expansive paranoiac converses and argues rationally and in a systematized way, but from false premises, while in the subject of acute mania the delusions are less fixed and are not supported by rational argument. In the former the delusion is of gradual growth, while in the latter it is usually abrupt and expansive.

In parietic dementia there is a general weakness of the mental faculties associated with tremor, the delusion is variable, the thoughts are rambling, disconnected, and usually supported by incongruous argument.

TREATMENT.—The time to institute treatment is in the early stages or in youth, when the subject is simply regarded as "peculiar." Early training and education, regular habits, with aid in thinking along proper lines, may do much to counteract the inherent mental defect.

When hallucinations are developing and delusions are likely to follow, prevent the subject, if possible, from secluding himself and nursing his morbid fancies. When self-control is lost and he becomes the victim of systematized delusions, little can be done except to place him under strict control.—HENRY M. HURD.

The paranoiac is generally allowed to remain at home, although he is often the most dangerous of all the insane. He should be guarded. In mild cases moral treatment to divert from purposes of revenge for fancied injuries may suffice.—B. W. STONE.

As paranoiacs are keenly alive to all that transpires around

them, are very sensitive as a general thing, and have good memories, residence in an asylum is not always advisable and may, in some cases, even prejudice the chances of recovery.—
JAMES SHAW.

Insomnia.

DIAGNOSIS is usually accepted from the statements of the patient seeking advice. The physician's duty is to decide whether the sleeplessness is functional or symptomatic of some other condition, and, if so, of what.

TREATMENT.—Drug treatment must put the patient in a position to go to sleep in a natural way and not put him to sleep. It should effect a lowering of intracranial pressure.—
BRAUMETZ.

In confirmed insomnia, trional, gr. xv.-xx. each night.—
BROWNE.

Caution.—Prolonged administration should be interrupted at intervals for several days to avoid cumulative toxic effect.

In primary insomnia, and in the sleeplessness of lunatic and alcoholic patients suffering from serious cardiac disease, trional, gr. v.-xv., repeated p.r.n.—BAKOFEN.

℞ Narceinæ gr. viij.

Confect. rosæ gr. xv.

M. et ft. pil. No. xxiv. S. One to three pills at bedtime.

—LABORDE.

When pain is not an element:

℞ Chloral gr. xx.

Ammonium bromide gr. xx.

Fl. extr. nux vom. gtt. x.

Fl. extr. belladonna gtt. ij.

M. S. To be taken at once and repeated in an hour or two if needed.

—ADOLPHUS.

In nervous insomnia:

℞ Formamidate of chloral 10 gm.

Tincture of ginger 10 "

Distilled peppermint water 150 "

M. S. A dessertspoonful at night.

—BOAS.

In intense motor excitation, duboisine, gr. $\frac{1}{160}$ - $\frac{1}{80}$, hypodermatically.—SKURIDIN.

In the inability to fall asleep, trional is indicated; if the patient awakens in the early morning sulphonal does better.

Insomnia from overexcitement :

℞ Sulfonal..... gr. xv.

Or—

℞ Trional..... gr. xij.

Sodii bicarb. gr. x.

M. S. Just before the evening meal.

Avoid mental work at night, exciting diet, and overheated quarters. Hot bath at bed-time.

To induce natural sleep, hygienic living throughout the day: supper about 6 P.M.; rest until 7; a walk in the open air, a spin on the bicycle, a ride on horseback, or quiet employment within doors; not more than one cigar; at 8:30 the bath, followed by rubbing; at 8:45 milk and crackers, and at nine o'clock to bed. Rise about six, take a cold sponge bath; five or ten minutes' walk; breakfast about seven."

That following alcoholic excesses :

℞ Chloral.,

Potass. bromidi.....℥ iv.

Extr. cannabis ind.,

Extr. hyoscyami..... gr. xvi.

Chloroformi..... ℥ ij.

Aquæ bullientis.....q.s. ad O ij.

M. Dissolve the cannabis in the chloroform and add the chloral. Pour the boiling water on this and add the bromide and the hyoscyamus. When cold filter. Dose : Dessertspoonful to tablespoonful.

—E. C. HOVED.

When opium cannot be borne :

℞ Tr. hyoscyami ℥ ij.

S. ℥ i.-iv.

—CAMPBELL.

℞ Amylene hydrate (P. G.)..... gr. xc.

Morphine hydrochlorate..... gr. $\frac{1}{4}$

Extract of licorice..... ℥ iiss.

Distilled water..... ℥ xxv.

M. S. Half on retiring.

R Amylene hydrate.....	gr. lx.
Morphine hydrochlorate.....	gr. ʒ
Mucilage of acacia.....	ʒ vi.
Water.....	ʒ xliiii.

M. S. As an enema.

—FISCHER.

R Paraldehyde.....	ʒ ij.
Glycerin.....	ʒ ss.
Syrup.....	ʒ i.
Sweet spirits of nitre.....	ʒ x.
Oil of anise or of orange.....	gtt. xii.

M. S. Teaspoonful every half-hour until sleep, or until six have been taken.

—A. A. RAWSON.

When the skin is hot and dry:

R Tinct. aconiti.....	ʒ xvi.
Aqua.....	ʒ ij.

S. ʒ i. every fifteen minutes.

—ANSTIE.

In the eruptive fevers in childhood, tuberculous meningitis, pernicious malaria with cerebral excitement, trional, gr. vi.-xv. in the twenty-four hours. Children show a particular tolerance and it is prompt in action.—H. D. CHAPIN.

In neurasthenia, strychnine and digitalis are often effective.—C. K. CLARKE.

In overworked students, strychnine or hot coffee. Magnesium sulphate is an ancient but trusty ally. As a last resort, chloral-amide, but without the patient knowing what drug he is taking.—DONALD MACALISTER.

In the insane, chloral is the surest sleep producer. Paraldehyde at times acts well. Secure sufficient out-door exercise and supply suitable diet.—J. Y. A. CAMPBELL.

R Chloral.....	gr. x.
Sulphonal.....	gr. x.
Phenacetin.....	gr. v.

M. S. For one dose.

—EDWIN RAYNER.

If the patient be gouty, sodium phosphate, sodium salicylate, piperazin, or uricedin.

In kidney disease with contracted blood-vessels, nitrites.

In anæmia, iron in organic preparation.—R. W. WILCOX.

To break a pernicious habit of sleeplessness, trional in initial dose of gr. xx.–xxiv., subsequently reduced to gr. xv.—J. A. BROWNE.

In the aged give small but oft-repeated doses of hyoscyamus.

In arteriosclerosis moderated open-air exercise. Warm drinks and cool spongings at bed-time. Avoid narcotics. Digitalis, nitroglycerin, and erythrol tetranitrite are often of signal service.—FRIEDEBERG."

Intestinal Obstruction.

Obstruction is not always differentiated with ease from colic due to other cause, or, having been established, it is not always easy to say what the nature of the obstruction is, whether due to bands, stricture, tumor, foreign body, fæces, hernia, twists, or invaginations. The pain is paroxysmal, soon followed by vomiting, tympanites, and prostration from shock, while all attempts to move the bowels are in vain.

DIAGNOSIS.—In obstruction of the small intestine there is usually an increased amount of indican in the urine and dysuria is apt to be present. If the obstruction is in the large intestine, the indican is not increased.—WILLIAMS.

Rapid effusion into the peritoneal cavity is significant of twist, especially of the large intestine, or of strangulation of the small gut. It does not occur in obstruction by tumor or foreign body and is less common in invagination. The sign is of value only when the effusion has occurred rapidly.—H. BRAUN.

DIFFERENTIATION.—*Strangulated hernia* is the important condition to be excluded by examination, since the symptoms are practically identical.

Enteritis is excluded by the collapse and comparative freedom from fever.

The vomiting in shock is reflex and never very serious. If rupture of the intestine has occurred, it becomes persistent and intractable.

Fæcal impaction is distinguished from intussusception, volvulus, cancer, stricture, and other causes of obstruction, by rectal examination, which discloses the hard mass of fæces even when diarrhoea has recently been present. The fæcal tumor may be found in the right iliac fossa extending to the outer half of Poupart's ligament. This may be soft and yielding, and pressure may cause pain. When in the hepatic flexure, it must be distinguished from an enlarged liver. When in the transverse or descending colon it is to be distinguished from tumor of the stomach, spleen, pancreas, and kidney, and it is said that the fæcal tumor has even been mistaken for a pregnant uterus.

Diagnostic differences in three forms of intestinal obstruction :

STRANGULATION BY BANDS.	VOLVULUS.	INTUSSUSCEPTION.
	<i>Age.</i>	
Young males.	Males about forty.	Young children.
	<i>Pain.</i>	
At umbilicus; severe from beginning.	Hypogastrium or back; comes on at once, but not so severe; intermits.	Prominent; comes in waves.
	<i>Vomiting.</i>	
Early, frequent, copious, stercoraceous, fourth or fifth day.	Late or not at all; never very urgent; fifteen per cent. of all cases feculent.	Very variable symptoms.
	<i>Constipation.</i>	
Complete from first.	From first.	Blood from bowels with tenesmus.
	<i>Abdominal Distention.</i>	
Not at first marked; no tumor.	Rapid accumulation of gas, causing great distention; no tumor.	Usually absent: tumor felt through parietes or in rectum.
	<i>Duration.</i>	
Die about fifth day.	Average six days.	Twenty-four hours to several days or weeks.

—J. W. MACDONALD.

TREATMENT.—*Taxis* by inversion of the patient, forcible shaking, pushing of the intestines from side to side, and the administration of large enemata while the patient is inverted, all under chloroform narcosis.—JONATHAN HUTCHINSON.

Gentle massage when the abdominal walls are not tense, or repeated enemata cautiously given.—REID.

For fæcal retention :

℞ Fresh ox gall..... ʒ ij.
Olive oil O ss.
Warm and inject each night, securing its retention as long as possible.

After the rectum is free, high injection (under continuous pressure not exceeding two pounds to the inch) of hot water containing boric acid. A half-gallon should be introduced.—SIR ANDREW CLARKE.

Caution.—Serious damage to the peritoneal coat may result from too great a pressure. The water bag held two or three feet above the abdomen should suffice. Make an infusion of 250 gms. of coffee in 12 cups of boiling water. Give one cupful every fifteen minutes until eight have been taken and then every half-hour.—GUÉRIN.

In obstruction of bowels, apply over the abdomen lint smeared with ext. belladonna and vaseline, p.æ.—WM. MURRAY."

In impacted fæces in a child, a large positive-pole electrode is placed upon the abdomen. The negative pole, four and one-half inches long, is introduced into the rectum, into which a pint of a salt solution has been previously injected. The current is gradually raised to twenty milliamperes.—MINGOUR AND BERGONIE.

In acute obstruction the exact cause can often be found only on intra-abdominal inspection.

In "peritonism" when the state is critical, open the abdomen without waiting for manifestations of pronounced and distinctive symptoms.—A. E. MAYLARD.

INTUSSUSCEPTION.

Invagination of the bowel, in which an upper segment passes within one lower down, produces a tumor varying in size from a swelling scarcely to be made out upon palpation up to one over a foot in length.

DIAGNOSIS.—A history of violent muscular effort, severe paroxysmal coughing, or even overloading the stomach just before the attack of sudden colic often helps materially in the diagnosis. The latter is facilitated by the presence of tumor, and active peristalsis confined to a limited area points to an obstruction having occurred lower down. Pain relieved by firm pressure over the tumor favors this diagnosis. Collapse may soon follow other symptoms, including faecal vomiting.

Obstruction in the large intestine is more apt to be an intussusception than volvulus, which is a less common affection. Intussusception occurs mostly in children, one portion of the bowel being invaginated into the lumen of another portion. It is most common in the lower segment of the ileum or in the cæcum.

The symptoms are those of intestinal obstruction, but unless the invaginated part projects through the rectum, as at times it does, or a gangrenous loop of intestine is thrown off with the dejections, an accurate diagnosis is difficult. Hiccough is a prominent symptom.

DIFFERENTIATION from acute peritonitis may necessitate an exploratory laparotomy. The occurrence of a discharge of bloody mucus with tenesmus is a sign of great diagnostic value. If, on exploration per rectum, the end of the invaginated gut can be felt, it lends valuable confirmatory evidence. The presence of a tumor as above noted, before it has been masked by succeeding peritonitis, is one of the most important differential aids. Distending the rectum with fluid or air by means of a long nozzle, the patient being in the knee-elbow position or on

the side, may verify the provisional diagnosis and at the same time the physician may be thus carrying out one of the most successful modes of treating intestinal intussusception.

The age of the patient gives material aid, since volvulus occurs between the ages of forty and sixty years, as a rule, and gall-stone occlusion also after the fortieth year.

PROGNOSIS.—Infantile intussusception left to itself is fatal in ninety-eight per cent of the cases.—WIGGIN.

Radical operation gives a mortality percentage of seventy-two. Early operation gives the best prognosis.—TREVES.

TREATMENT.—When the attempt to distend the bowel as above mentioned has not succeeded, abdominal incision must be entertained, and not more than three days should be allowed to pass before the surgeon's aid is sought.

Withhold food. Give opiates. Mechanical disinvagination by introducing into the gut hydrogen gas or filtered air after washing out the bowel with high enemata.

Attempts at reduction by the injection of water into the bowel should be resorted to before operation. Or—

R Tabaci 3i.
 Aquæ bullientis O i.
 Macera per sextum horæ partem, et cola. S. Inject one-quarter or one-half,
 and repeat in half an hour, if necessary, carefully watching its effects.

The mechanical method is uncertain in results, may produce false impression of success, and delays operative measures.

When luvage by ordinary methods fails, anaesthetize the patient and support in the inverted position. By means of a rectal tip introduce water under pressure into the gut, alternating with forcible kneading.—PYNCHON.

Caution.—Too great pressure of water may cause rupture.

In chronic intussusception as in acute, temporizing without good reason and postponing operative measures is bad practice.—RYDYGIER.

Inflation does not appear to be safer than injection, and neither is advisable as a prelude to laparotomy.—MORTIMER.

When the obstruction has existed several days and the patient is weak, do not give chloroform. Freeze the skin with ethyl chloride and make a small artificial anus. The obstruction may be dealt with afterward.—J. CRAWFORD RENTON.

The after-treatment in laparotomy in very young children is very important and skilful nursing has much to do in bringing to a successful issue.—CLUBBE.

Inject a pint and a half of tepid saline solution under a pressure of three feet. If this is not successful, resort at once to laparotomy.—WIGGIN.

Pass a soft-rubber tube as high up in the colon as possible, fasten the outer end of the tube over the nozzle of a carbonic-acid siphon, and allow as much of the gas-charged water to enter as will.—DAWBARN.

℞ Sodii bicarbonatis..... gr. xl-3i.
Aquæ..... 3 vi.
Solve et fiat enema. S. Inject.

Follow immediately with :

℞ Acidi tartarici pulv..... gr. xxxv.-xlviij.
Aquæ..... 3 iv.
Solve et fiat enema. S. Inject.

The effervescence will cause the bowels suddenly to distend.—BARTHOLOW.

Acute intussusception is in reality a form of strangulated hernia, and the subacute is frequently an irreducible hernia. Enemata are far from being devoid of danger.

An enema should be slowly introduced under anæsthesia and in the Sims position.

In collapse small doses of morphine, stimulants under the skin.—WIGGIN.

Or, inflate the bowel through the rectum, even when t

Apex of the intussuscepted gut has protruded through the anus.

—**WILKINSON.**

In tympanites, if relief fails to follow cathartics, posture, enemata, and rectal tube, then cœliotomy and incision of bowel should be undertaken without delay.—**PORTER.**

VOLVULUS.

Twists in the bowel, usually upon its mesenteric axis, implicate the large intestine and usually that portion near the sigmoid flexure or cæcal region. In a small percentage only is the small intestine the seat of twisting or knotting. It rarely occurs under forty years of age.

DIAGNOSIS.—Pain, as in other forms of acute obstruction, is an early and lasting symptom. At first it is referred to the umbilicus; later, to the seat of the obstruction. Vomiting occurs early, if the twist be in the small intestine; late, if it be in the large intestine. Fæcal vomiting is a late symptom when the volvulus is in the sigmoid flexure.

An absolute diagnosis can be made only by exploration.

PROGNOSIS.—This is the most rapidly fatal form of obstruction.

TREATMENT.—Palliative measures are of no avail. As soon as diagnosis has been made, operation is immediately demanded.

Intestinal Ulcer.

Ulcer of Duodenum.—It is especially in youth and in the presence of anæmia that we look for symptoms of duodenal ulceration. They are the same as those of indigestion or dyspepsia of the intestine. This affection seems to be peculiarly frequent after severe burns of the skin surface.

DIFFERENTIATION from gastric ulcer is often difficult, as many of the same features are common to both.

The pain, in typical instances, is more localized at the tip of

the xiphoid cartilage. Vomiting or passing blood tends rather to exclude functional disorders. Perforation is apt to be confounded with occlusion or appendicitis.

PROGNOSIS.—Six per cent of gastric and duodenal ulcers are said to end in perforation followed by rapid death.

TREATMENT.—The same as in gastric and typhoid ulcer.

In perforating ulcer of the duodenum, sudden epigastric pain, nausea, faintness, anxious expression, and other symptoms quite similar to those of gastric ulcer occur, especially in those addicted to alcohol.

Surgical treatment may result favorably.—DUNN.

Acute perforating ulcer of the jejunum seems to be analogous in many respects to stomach ulcer and calls for much the same plan of treatment.

Jaundice.

Icterus interests us chiefly as it occurs in infancy, since, in the adult, it is symptomatic of a variety of affections depending upon definite disease processes elsewhere described. It occurs as a physiological state in the early days of life, passing away without treatment after brief delay, and without affecting the general health. When, as sometimes happens, it is present in subjects of hereditary lues, symptoms of hepatitis may be made out. It is also not uncommon in infants who present, post mortem, changes or malformations in the bile ducts, or who have cardiac lesions or persistence of the foramen ovale, or it occurs as a symptom of acute infectious diseases. The jaundice accompanying congenital malformations appears a few days after birth, and is so intense that all tissues and fluids, including the urine, are bile-stained, and a fatal result commonly ensues in spite of treatment. If the icterus be due to an infectious or toxic cause, other manifestations pointing in this direction will usually be present. In the adult cholelithiasis must not be ex-

cluded from the diagnosis because of the absence of jaundice. It is possible for an impacted stone to exist in a duct so dilated that bile escapes alongside, and, as every one knows who has made or seen any number of autopsies, the gall bladder may be filled to its utmost capacity with calculi in subjects who had presented during life, so far as the history could be gathered, no yellowing of the skin.

Catarrhal jaundice is usually seen after an attack of indigestion. While most common in the young, it may occur at any age and is especially frequent in malaria, in some forms of chronic heart or kidney disease, and may occur after exposure to dampness.

There may be a true icterus in the newborn due to liver derangement.

Obstructive jaundice occurs in stenosis from malignant disease, occlusion from gall stone, conditions of fibrosis, or inflammatory thickenings about the common bile duct.

TREATMENT.—Physiologic, benign, and self-limited jaundice of the newborn requires no treatment. In that due to congenital malformation of the bile ducts, or to congenital heart lesions, treatment is of no avail. When depending upon specific hepatitis, therapy is to be directed to the original disease.

In simple catarrhal icterus, intestinal lavage, intestinal antisepsis.

In catarrhal icterus in a child :

℞ Pulv. digital.,
 Pulv. scillæãã gr. vi.
 Potass. nitrat. gr. xij.
 Pulv. aromat. 3 i.
 M. et ft. chart. No. xii. S. One once or twice daily.

For the pruritus of persistent icterus, massage and vapor baths, open-air life, gymnastics, diuretics, and, if the bladder is overdistended, puncture and evacuation.—DUJARDIN-BEAUMETZ.

In simple catarrhal jaundice, a five weeks' course of Hathorne

spring of Saratoga or a course of Carlsbad waters, with alkaline waters between meals (Vichy, Vals).

To stimulate the descent of a stone, irrigate the large bowel with cold water.—TYSON.

In severe icterus, calomel, gr. $\frac{1}{8}$, morning and night.—HANOT.

For a child of five years :

℞ Ammon. chlor..... ʒi
Elix. simp. ʒiij
M. S. ʒi. in water t.i.d. after meals.

—POWELL

℞ Sodii phosphat..... ʒss
Div. in partes vi. S. One before meals.

—BARTHOLOW.

In the catarrhal form :

℞ Fellis bovis pur..... ʒi.
Mangani sulph. exsic ʒij.
Resinæ podophylli gr. v.
M. et ft. pil. No. xx. S. One t.i.d.

—DA COSTA.

℞ Potassii acetatis..... ʒiij.
Tinct. nucis vomicæ ℥xlvij.
Glycerini,
Syr. rubi idæi..... āā q.s. ad ʒvi.
M. S. ʒii. in tumblerful of water four times daily.

—HUGO ENGEL.

℞ Hydrarg. chlor. mit..... gr. iij.
Pulv. opii..... gr. ij.
Bismuthi subnitr..... ʒiiss.
M. et fiant chart. No. vi. S. One every three hours.

—WILLIAM PEPPER.

℞ Aloes socotrinae,
Cambogiaë,
Hydrarg. chlor. mit..... āā gr. xv.
Syrupi. q.s.
Divide into ten pills. S. One or two a week to keep bowels soluble.

—A. GUBLER.

Jaundice, Acute Infectious.

Febrile icterus, or Weil's disease, seen mostly in butchers and brewers, especially after exposure to the cold of ice houses and beer vaults, begins with chill and fever reaching 105° F., falling gradually between the fifth and tenth day to normal. Recurrences with milder symptoms of a shorter duration are noted in about one-quarter of those affected. There is mild jaundice almost from the start, lasting somewhat beyond the defervescence. The pulse falls when the skin becomes yellow, perhaps to a normal point. The liver and spleen are enlarged. The skin shows an erythema and at times a herpes about the end of the first week, and more rarely ecchymoses may occur.

DIAGNOSIS is made easy by the characteristic range of temperature associated with the symptoms of jaundice, especially in epidemic prevalence.

Jaundice comes on quickly after a chill, fever, headache, vomiting, and pain in the stomach region. The vomited matter may be black, and hemorrhages into the skin and mucous membranes may occur. The urine may be suppressed after showing a large percentage of albumin, and coma may follow upon delirium or stupor.

DIFFERENTIATION.—From acute yellow atrophy of the liver, by the history of occupation and exposure, and by the fact that the liver is not decreased in size while the jaundice is more intense.

Yellow fever is excluded by the history of the onset in the absence of epidemic prevalence of that disease.

Typhoid fever has a less sudden onset with prodromata and characteristic eruption, while here there is a much shorter course and remissions are characteristic. The diagnosis from simple catarrhal jaundice is often one of great difficulty.

PROGNOSIS.—Death occasionally occurs early and in severe epidemics the mortality may reach twenty-five per cent.

The prognosis is generally good.—WALTER B. JAMES.

TREATMENT.—In the early stages:

R Hydrarg. chor. mitis..... gr. iij.-vi.
Ft. pulv. No. xii. S. One three times daily.

Alkaline waters, intestinal irrigation, milk diet.—JAMES.

Kidney, Abscess.

In suppurative nephritis chills recurring with irregularity and fever of continued type are among the symptoms.

DIAGNOSIS.—If an injury has occurred and signs of localized suppurative inflammation follow, abscess may be suspected. If the abscess ruptures into the pelvis of the kidney, an abundant pyuria makes its appearance and blood is often present in the urine. There may be suppression. Idiopathic abscesses are confined to one kidney; the symptoms begin gradually; besides repeated chills and irregular fever, there is anæmia, emaciation, and frequently nausea and vomiting.—FRANCIS DELAFIELD.

Suppurative pyelonephritis is always secondary and the result of some infection. If, following sounding, catheterization, or gonorrhœa, or associated with hypertrophy of the prostate, long-standing stricture, or chronic cystitis, repeated chills occur, with high fever, profuse sweating, and a general septic state, this condition should be suspected.

DIFFERENTIATION.—From tuberculosis of the kidney, by the history, the negative microscopical and bacteriological examination of the sediment, and the absence of pulmonary or bone tuberculosis.

More important is the question whether one or both kidneys are affected. Pre-existing suppuration in the bladder or urethra nearly always affects both kidneys. In about twenty per cent of seventy-one collected cases of well-defined acute suppurative pyelonephritis, the lesion was unilateral.—WEIR.

Catheterization of the ureters enables us to collect the urine from the kidneys separately.

PROGNOSIS.—In the true “surgical kidney” it is bad. Involvement of one kidney only, and absence of purulent cystitis, hypertrophied prostate, stricture, etc., make the prognosis more favorable.

TREATMENT.—In acute septic infection following sounding and operations on the genito-urinary tract, give quinine.

In “surgical kidney” give methylene blue, 0.1 gm. in capsule with nutmeg, three or four times a day.

In idiopathic and solitary abscess perform nephrotomy, and drain as in ordinary abscess.

Exploratory nephrotomy of one or both sides is justifiable in acute septic infection of the kidney, with the hope of relieving acute interstitial invasion or perhaps of finding a larger focus of suppuration. If double nephrotomy shows that but one kidney is affected, nephrectomy may be indicated.—WEIR.

Kidney, Amyloid Degeneration.

Amyloid infiltration may complicate chronic interstitial or chronic parenchymatous nephritis and the symptoms will depend largely upon the primary disease.

DIAGNOSIS.—The general symptoms are much the same as in amyloid changes in other organs. The liver and spleen are here likewise apt to be enlarged and a coexisting diarrhoea makes the presence of amyloid changes highly probable, especially if the urine is rich in albumin while showing but little sediment, and there is some suppurative process going on elsewhere in the body.

The urine is generally increased in amount and of low specific gravity; casts are abundant, especially of the fatty variety; the “waxy” (hyaline) cast is not distinctive.

Kidney, Hydatids of.

We may or may not have tumor. There is one-sided fluctuation, sensation of thrill, and the urine may show vesicles which have passed. The tumor if present is tense and usually painless, even on pressure.

DIFFERENTIATION from hydronephrosis cannot be made except by presence of vesicles, exploratory puncture, or incision.

TREATMENT.—Incision and evacuation of cysts.

Kidney, Movable.

Aside from any surgical interest that a loose, displaced, or floating kidney may have, it interests us here by reason of its comparative frequency in women, subjects of tabes, and in neurasthenics.

DIAGNOSIS.—Polyuria and gastro-intestinal symptoms are not infrequent. Pain may be referred to the area of distribution of the spinal nerves. Physical examination gives greater aid in diagnosis than do the symptoms.

DIFFERENTIATION.—The fact that displacement on the right side is more frequent makes differentiation from distended gall bladder necessary, especially as jaundice may be present in both conditions. A retroflexed bladder, in the case of a downwardly displaced liver, may closely simulate the outline of a kidney. Both are movable, the former always in the arc of a circle, and it is more readily mapped out than is the kidney. If distended with calculi, it also feels harder. The kidney may be felt behind the bladder tumor.—MORRIS.

(See "Abdominal Tumors" for further differentiation.)

PROGNOSIS.—It may produce hydronephrosis, induce gall stones, dilatation of the stomach, neurasthenia, or death by torsion of the vessels and ureter. Mild cases often cause no symptoms, exist without the patient's knowledge, and require no treatment.

TREATMENT.—Mechanical support for the abdomen and con-

tained viscera. A pad should be so shaped and applied as to **make** pressure upward, backward, and toward the right. It **should** be soft but firm and covered with leather; about three **inches** long and two wide, and kidney-shaped.—STENGEL.

For complete cure surgical procedures are required.

Kidney, Tuberculosis of.

When existing as a primary or local condition early detection is of vast importance.

DIAGNOSIS.—Early signs are often referred to the bladder. **Fever**, associated with dull aching pain, tenderness over one **kidney** region, frequent micturition without other discoverable **cause**, urine being acid and containing albumin and subsequently pus, blood, detritus, epithelium, and renal cells, may **lead** one to watch for tumor.

If, in the sediment of the urine collected by means of the **ureteral** catheter, tubercle bacilli are found, a positive diagnosis **can** be made. Bacilli are scanty and not readily distinguished from smegma bacilli.

DIFFERENTIATION.—From stone in the kidney pelvis by **absence** of characteristic colic; the two are often associated.

It is important to ascertain whether both kidneys are **affected**; this may be determined with some accuracy by testing the permeability of the kidneys with methylene blue, ureteral catheterization, and microscopical and bacteriological examination of the collected urine.

PROGNOSIS.—Fatal ending for most instances in from a few months to three years. Recovery without operation is rare. Proximate mortality with operation, twenty-eight to thirty per cent.

In primary tuberculosis of one kidney and no involvement of the bladder, nephrectomy gives good results.

TREATMENT.—In early stages corrosive sublimate in small

doses. Morphine for pain. Calcium chloride and remedies as in phthisis. Urotropin, tuberculin.—HARRISON.

Operative treatment should be limited to cases in which the strength of the patient is sufficient to resist the immediate effects of the operation, and in which either the renal disease is primary, or, if secondary, the primary disease is not far advanced.—SENN."

Kidney, Tumors of.

Congenital :

Sarcoma	{	Round-celled.
		Fibro-sarcoma.
		Striped myosarcoma.
		Adeno-sarcoma.

Dermoid cysts.

Adult origin :

Cavernous tumors.

Sarcoma.

Adenoma	{	Cystic.
		Tubular.

Carcinoma (a) of kidney	{	Cystic.
		Tubular.
(b) of pelvis	{	Epithelioma.
	{	Colloid.

—PAUL.

DIAGNOSIS.—The presence of lymphadenoma, pain, tenderness, hæmaturia, and possibly of sarcomatous or carcinomatous cells or tissue in the urine, when malignant disease of the bladder can be excluded by the cystoscope, is suggestive, especially if the tumor can be felt.

PROGNOSIS.—Good if diagnosis is made early, rendering radical operation possible.

TREATMENT.—Nephrectomy.

(For other kidney diseases see under "Nephritis.")

Laryngismus Stridulus.

Laryngismus stridulus in children produces a spasmodic cessation of respiration and congestion of the face. There is a struggle for breath, and as the spasm relaxes inspiration takes place with a characteristic crowing-sound. There is neither cough, nor fever, nor markedly altered voice. Attacks usually occur at night.

DIFFERENTIATION.—The low temperature practically excludes laryngitis.

In the adult a severe attack excites the gravest apprehension, not only on the part of the patient but upon that of the friends as well. The face is cyanosed, the body bent forward, and the patient struggles in his efforts for breath.

In hysterical spasm the inspiration is stridulous, while the expiration is free.

PROGNOSIS.—Usually good. Sudden death has been reported.

In measles a spasmodic croupy laryngitis may occur early during the time of eruption or during convalescence, closely simulating this condition.

TREATMENT.—For an adult, inhalations of chloroform, ether, or nitrite of amyl.

In children, rickets being the chief etiological factor, it is important to give the child proper diet and put it under anti-rachitic treatment.

In spasmodic epileptiform seizures, bromide of potassium, gr. x., repeated as required.

℞ Potassii citratis.....	3 i.
Syr. ipecacuanhæ.....	3 ij.
Tinct. opii deodorati.....	gtt. xij.
Syr. simplicis.....	3 ij.
Aquæ.....	℥ iss.

M. S. Teaspoonful every two hours for a child of two years.

—MEIGS AND PEPPER.

For a child of four or five years :

℞ Potassii bromidi 3 i.
 Aquæ destillatæ ʒ iij.

M. S. To be given in divided doses during the day and continued in the same or larger dose for five to eight days.

—HUCHARD.

℞ Antimonii sulphurati (Kermes mineral) 0.05 cgm.
 Tinct. aconiti,
 Tinct. belladonnæ ʒss 5 gtt.
 Syr. aurantii florum 30 gm.
 Aquæ sambuci q. s. ad 120 gm.

M. S. Teaspoonful to a dessertspoonful every half-hour.

As an emetic, hydrarg. subsulphas flav., gr. iii.-v. Safer and better than tartar emetic. Wet pack to the neck.—BARTHOLOW.

℞ Potassii bromidi,
 Sodii bromidi ʒss 3 i.
 Chloralis gr. xlvij.
 Syr. simplicis ʒ i.
 Aquæ cinnamomi q. s. ad ʒ iij.

M. S. 3 i. every half-hour.

—POWELL.

To arrest an impending attack :

℞ Chloral gr. v.-xv.
 Syr. simplicis,
 Aquæ destillatæ ʒss 3 ss.

M. S. One dose.

—BARTHOLOW.

In rickety, cachectic children :

℞ Quininae sulphatis gr. vi.
 Acidi sulphurici diluti ʒ vi.
 Tinct. aurantii,
 Syr. zingiberis ʒss 3 ij.
 Aquæ destillatæ ʒ iij.

M. S. ʒ i. t.i.d.

—OKE.

℞ Phosphori gr. ʒss
 Olei amygdalæ dulcis 3 ij.
 Acaciæ 3 iij.
 Aquæ destillatæ q. s. ad ʒ iv.

M. S. Teaspoonful twice a day.

Or—

℞ Moschi.....	0.20 cgm.
Syrupi.....	25 gm.
Aquæ tiliæ.....	60 gm.
M. S. Teaspoonful four or six times a day.	

Laryngitis, Acute Catarrhal.

A cough with hoarseness, "loss of voice," pain on swallowing, perhaps spontaneous, and either a dryness or sense of constriction in the throat, are the features on which a diagnosis is based. While the character of the voice is almost sufficient, the laryngoscope should be used in confirmation.

DIFFERENTIATION.—From the chronic form by duration, lesser degree of pain, etc.

From the tuberculous by absence of lung signs and ulceration.

From syphilitic by lack of evidence of infection.

From laryngismus stridulus, by lack of crowing inspiration.

From diphtheria by absence of membrane and less-marked fever.

From spasmodic asthma and bronchitis by absence of cough.

From aneurism by lesser degree of pain.

From œdema of the larynx; paralysis of laryngeal muscles; hysterical aphonia. (See under these headings.)

TREATMENT.—Inhalation of hot steam, medicated or not, by means of a rubber tube attached to the spout of a tea-kettle or by means of an inhalation apparatus.

In children, hot moist sponges to the throat.

℞ Tinct. aconiti gtt. i.
S. In water every fifteen minutes.

In simple laryngitis, the best sedative is a flow of non-irritating bronchial mucus, to encourage which apomorphine, gr. $\frac{1}{80}$, in a freshly compounded acidulated mixture, is advised every three hours.—T. HUBBARD.

The best drug sedative is codeine sulphate, gr. $\frac{1}{2}$.

Or, pilocarpine, gr. $\frac{1}{100}$ in tablet form every hour, for three or four doses. Hot mustard foot baths and hot drinks.

As a spray :

R Olei santali	gtt. iv.-vi.
Olei picis.....	gtt. i.-iiij.
Albolene	℥ i.
M.	

In beginning attacks in singers, etc., dilute nitric acid, gtt. v.-x. in water or on a lump of sugar.—KYLE.

R Tinct. ferri chloridi.....	℥ iij.
Potassii chloratis.....	℥ iij.
Potassii bromidi.....	℥ iiij.
Extr. glycyrrhizæ.....	℥ i.
Aquæ destillatæ	q.s. ad ℥ vi.

M. S. A dessertspoonful in water every three or four hours. Gargle and swallow.

—CARL SEILER.

The use of astringents is attended with the best of results.

R Liq. ferri persulphatis.....	gtt. v.-x.
Aquæ destillatæ	℥ i.

M. S. Use in atomiser.

—DAILY.

In children, in connection with acute rhinitis :

R Cocainæ muriat.....	gr. ij.-v.
Aquæ.....	℥ xv.
Ft. solut. et adde :	
Glyceriti acidi tannici.....	℥ i.
Olei petrolati.....	ad ℥ i.

M. S. Apply by nasal atomizer every two or three hours.

—BOSWORTH.

R Sodii sozoiodolat. .	
Sulphuris sublim.	℥ 15

M. S. Apply with powder blower every four hours —FRITSCH.

For persistent and distressing cough in a child of seven years :

R Acidi hydrocyanici diluti.....	℥ ij.
Codeinæ.....	gr. iiss.
Ammonii muriatici.....	gr. xvi.
Aquæ laurocerasi.....	q. s. ad ℥ ij.

M. S. A teaspoonful every two hours as needed.

℞ Ammon. et potass. tartrat gr. $\frac{1}{10}$
 Liq. ammon. cit. (Br.) ℥ x.
 Elix. aromat. ℥ v.
 Aquæ q. s. ad 3 i.
 M. S. Every four hours for a child of two or three years.

—ASHBY AND WRIGHT.

℞ Potassii chloratis,
 Potassii bromidi,
 Pulv. extr. glycyrrhizæ.....ãã 3 i.
 Tinct. ferri chloridi..... 3 ss.
 Sacchar. albi..... q. s.
 M. ft. trochisci No. xx. S. One every three or four hours.

—SEILER.

Laryngitis, Chronic.

We have here a variety of forms due to a variety of causes. In a general way it may be said that there is complaint of a sense of constriction, but no difficulty in swallowing. From a constant desire to “clear the throat” coughing is frequent, but the expectoration scanty. White, stringy, boiled-starch-like mucus is coughed up. There is a considerable amount of hacking, hoarseness, and hyperæmia of the mucous membrane, as seen by laryngoscopic examination. The voice is harsh, rough, or almost lost.

DIFFERENTIATION.—From the acute, by history of its having followed the latter and the evidences of chronic inflammation.

Tuberculous and syphilitic laryngitis are excluded by absence of history and of characteristic ulceration, excoriations being more commonly present in the catarrhal form.

From paralysis of the cords, ulcerative changes, tumors, and exudations, by means of the laryngoscope, chronic subglottic laryngitis is distinguished by a bulging immediately below the edge of the cords, as an evenly rounded tumefaction. Dysphagia when present is indicative of the tuberculous form.—
 DA COSTA.

PROGNOSIS for total and permanent recovery in adults is not

brilliant, excepting for the rarer instances in which treatment can be rigorously carried out. There are frequent exacerbations of acute laryngitis.

TREATMENT should be directed to any underlying systemic defect.

Relief may depend upon the cure of nasal defects causing mouth breathing, or the removal of the patient from unwholesome and dusty surroundings and occupations. Restore the passages above to a healthy condition by curing hypertrophic rhinitis, chronic nasopharyngeal catarrh, etc.

Alcohol should be interdicted.

Mild astringents are far more efficient than the stronger ones.

℞ Argenti nitratis gr. x. to ʒi
(This is usually sufficient.)

Or—

℞ Zinci sulphatis gr. v.-xx. to ʒi.

Or—

℞ Zinci chloridi gr. ij.-vi. to ʒi.

Or—

℞ Cupri sulphatis gr. iiij.-x. to ʒi.
—BOSWORTH.

As a sedative inhalation :

℞ Tinct. benzoini comp. ʒ iv.
Chloroformi ʒ ss.
M. S. Teaspoonful in a pint of water at 140° F.

—CARPENTER.

In singers and public speakers, as perfect rest of voice as possible.

Anodyne expectorants without syrups, iron tonics, faradic electricity, mountain air.—SEILER.

Laryngitis, Tuberculous.

The most frequent sites are the ventricular bands and the vocal cords, the right side being most often affected. It may be primary, or secondary to pulmonary tuberculosis. The growth is slow and the course chronic.

The symptoms are hoarseness, dyspnoea, and very frequently dysphagia.

Lesions assume two forms: 1. Granular infiltration with congestion and œdema, undergoing later a caseous degeneration. 2. Ulceration—ulcers shallow, superficial, with jagged edges, and gray, smooth base.—CHEVAL-ROUSSEAU.

DIFFERENTIATION.—The growths cannot be distinguished clinically from fibroma, papilloma, or sarcoma.—PAYSON CLARKE.

Microscopic examination of the sputa or scrapings makes early diagnosis possible.

PROGNOSIS.—Treatment offers relief and prolongs life, but seldom cures. Pulmonary complication.

TREATMENT.—General treatment is imperative. Hygiene and mountain air.

Primary tuberculosis of larynx :

R. Acid. phenic.....	1.	gm.
Iodi.....	0.05–0.10	"
Potass. iodidi.....	0.10–0.25	"
Tinct. opii.....	1.–2.	"
Glycerini.....	45.–120.	"
M. S. Use a teaspoonful in a glass of tepid water morning and night.		

—SENESE.

Medicinal.—Guaiacol carbonate and creosote are useful.

Local.—Atomization, inhalation, insufflation, injections, and pigments are the local measures. The application of lactic acid or sulphuricinate of phenol gives gratifying results.

Or, parachlorphenol in five to twenty per cent solution in

glycerin. Enzymol is a most valuable auxiliary to lactic acid and the curette.—GLEITSMANN.

Produce anæsthesia with a ten-per-cent cocaine solution and apply:

℞ Acidi phenici 1-5 gm.
Acidi lactici 2-15 "
Glycerini neutr..... 20 "
First in weak then in full strength.

—BOTTEY.

Or, *phenosalyl* :

℞ Acid. carbolic..... 9 parts.
Acid. salicylic 1 part.
Acid. lactic 2 parts.
Menthol..... $\frac{1}{10}$ part.

—S. VON STEIN.

In the first stage place a dessertspoonful of the following in a pint of water kept slowly boiling and let the patient inhale:

℞ Tinct. canellæ,
Tinct. bellad.,
Tinct. opii.....āā 30 gm.
Tinct. eucalypti..... 100 "

In the second period lactic acid gives excellent results, but its application must be energetic and repeated.

For an insufflation or gargle :

℞ Cocain. hydrochl..... 1. gm.
Morphin. hydrochl 0.80 "
Acid. phenic 1. "
Antipyrin 4. "
Glycerini puri,
Aq. menthæ pip.....āā 50. "
Aq. destil..... 300. "

M.

—BOMMIER.

When there is pain :

℞ Di-iodoform..... 8. gm.
Cocain. hydrochl 0.08 "
Morphin. hydrochl..... 0.04 "

M. S. Give four to eight aspirations daily.

—LEDUC.

For the dysphagia :

R. Cocainæ hydrochloratis..... gr. iv.
 Morphinæ hydrochloratis..... gr. iss.
 Antipyrini..... gr. xxx.
 Aquæ destillatæ,
 Aquæ laurocerasi..... ãã ʒ i.

S. Apply by means of atomizer during the day.

Injectons of menthol in olive oil.—ROSENBERG.

Tracheal injections of creosote or guaiacol in olive oil, two per cent. Dose, three grams increased to twenty.—R. BOTEY.

Surgical.—Incision, curettage, submucous injections, electrolysis, galvano-cautery, laryngotomy, laryngectomy, tracheotomy, and intubation comprise the surgical procedures.—GLEITSMANN.

If the infiltration does not yield to local medication, resort to curettage.

Contraindications for curettage are advanced pulmonary disease, disseminated tuberculosis of larynx, and extensive infiltration producing stenosis. For the latter tracheotomy or laryngectomy may be indicated.—GLEITSMANN.

(See also under “Tuberculosis.”)

Laryngitis, Syphilitic.

This may be:

1. Primary; seat of initial lesion; rare.
2. Secondary; erythema, mucous patch, or ulcers (small).
3. Tertiary; gummata or ulcers (deep), fibroid degeneration.
4. Hereditary; resembles tertiary form; uncommon.

DIFFERENTIATION.—Secondary syphilitic laryngitis gives no characteristic appearance; it must depend on other evidences of disease, history, and result of treatment. Exclude tuberculosis. Syphilitic ulcer is usually single, develops rapidly with one-sided swelling, and small gummata may be seen.

TREATMENT.—Antisyphilitic, early and vigorous, constitutional and local. Insufflations of iodóform if ulceration is present. Bichloride sprays, with benzoinol or liquid cosmoline. In

fibroid degeneration tracheotomy may be required. Necrotic cartilage should be removed when loose.

Larynx, Oedema of.

Decided swelling may occur independently, as a complication of grave systemic disease or of laryngitis or other throat affection.

Symptoms of stenosis come on rapidly. Phthisical and syphilitic patients are frequently affected. There is a feeling of painful fulness in the throat and a peculiar barking cough.

Symptoms are those of asphyxia—rapidly increasing dyspnoea, cyanosis, delirium, coma, and death.

It is also called acute oedema of the glottis.

TREATMENT. Ice rarely does good; a solution (five per cent) of cocaine sometimes relieves mild cases.

If this fail, scarify at once, making deep incisions. Intubation may be attempted; lastly, tracheotomy.—LEFFERTS.

Scarification of the swelling, mustard plaster, or fly blister to the throat; bleeding, leeching, cupping; atmosphere saturated with moisture.

R	Alumina	...	...	...	...	gr	xx-xx
	Aque	...	...	...	...	℥	i

S. Use in atomizer

Caution.—Silver solutions are too apt to increase spasms.

To prevent recurrence, constitutional treatment directed against the particular organ at fault.

When associated with perichondritis, ichthyol in aqueous solution to the mucous membrane and externally.

R	Ichthyol	...	...	...	...	ss	℥i
	Lanoline	...	...	...	...

Apply to the throat externally

—KYLE.

Leprosy.

Leprosy is not difficult of diagnostication when fully developed, and especially in its tubercular form with recurrent eruptions of bullæ, tubercles, and diffuse plaques, leaving pigment stains behind, muscular atrophy, thickened ulnar nerve, perforating ulcer, and leonine face with loss of expression. In any doubtful case the lepra bacillus may be sought.

DIAGNOSIS.—It is, however, in the anæsthetic or macular form, and especially in the earlier stages, that greatest difficulty is encountered. The first intimation may be the fact that the subject has received a burn without experiencing pain. This form may begin as a bullous eruption, perhaps limited to one or more fingers, and gradually spreading until both hands are involved and the bullæ are succeeded by rounded ulcers. The characteristic anæsthesia extends up the arm, giving areas in which the reaction to pain, heat, cold, etc., is abolished. Erythematous spots or macular patches of brownish pigmentation develop. Mixed forms may present serpiginous pigmented patches upon the body along with tuberculous nodules above the brows and in the lobe of the ear. Bone disease of the hands can be determined by the x-rays, resorption of the distal phalanges being made out. Since years may intervene between the infection and first signs, a very early diagnosis is scarcely ever possible. Almost the earliest sign is the occurrence of erythematous spots, especially on exposed parts. There are apt to be lesions upon the soles; hyperkeratoses and thickening of nerves, especially the ulnar. In the anæsthetic variety the spots extend at the periphery and clear up in the centre.

DIFFERENTIATION. From other forms of pigmentation by the presence of anæsthesia.

From syphilis by a lack of history of infection and of earlier signs; by the difference in color of the lesions and the course. Syphilitic lesions tend more to roundness of contour, and to the formation of rounded groups and crescentic and

serpiginous patches. There is no initial lesion corresponding to the chancre. If an excised portion of skin shows no bacilli and there are no anæsthetic areas, doubt may still exist. The therapeutic test by mercury is not conclusive, since many lepers do extremely well on this treatment.

The erythematous blotches are distinguished from measles, drug eruptions, and the like, by their persistence.

From morphœa by the absence of the violaceous areola surrounding the patches.

From mycosis fungoides by the more rare development of fungating masses or tumors in lepra and the more rapidly fatal course of mycosis.

From syringomyelia by resecting in an anæsthetic zone a superficial cutaneous nerve. If lepra is present the bacillus will be found. In a number of instances of supposed Morvan's disease Hansen's bacillus has been discovered by different observers. Other affections for which lepra in its later stages has been mistaken are scleroderma, arthritis deformans, muscular atrophy, and hysterical contractures.

From lichen planus, by the subjective symptoms, which are not found in the latter, and by the absence of itching.

From pemphigus, by the ulceration that often follows the bullæ in lepra.

From skin tuberculosis, by the bacilli, which are much more abundant than in the latter and more readily stained.

A Simple Method of Examination for the Bacilli.—A cover glass is smeared with a drop of the serum obtained by scraping one of the suspected leprosy nodules. This is stained with carbol fuchsin and decolorized with sulphuric acid and methylene blue (Gabbett's fluid), and examined under the microscope in the ordinary way.—JOHNSTON AND JAMIESON.

PROGNOSIS.—Few instances of recovery under drug treatment have been recorded, and in some of those that have been reported recurrence has subsequently been noted. Under change

of climate many patients do extremely well for years. The average of life after the first symptoms are noted is about eight to ten years.

TREATMENT.—*Orrhotherapy.*—*The Carrasquilla serum cure*, leper serum passed through the horse, is employed by hypodermatic injection.

There is no reaction until after the third or fourth injection. Then feelings of cold and rigors are noted. Under this treatment sensation returns in anæsthetic areas, the health improves, ulcerations cicatrize rapidly.—JUAN DE DIOS CARRASQUILLA.

Another serum is made by injecting the juice of freshly removed lepra nodules into animals and drawing off their blood when they have fully returned to health.

This injected into lepers gives a reaction after six hours, and results in various signs of improvement after a course of from three months to a year (sixty cases, six cures, lasting a year to date of report).—LAVERDE.

Antivenomous serum (Calmette), in experimental stage.—ISADORE DYER.

Locally :

℞ Bismuth oxyiodogallate.....	10
Vaseline.....	100
M. S. Use as an inunction with massage over the whole body.	

To inject into leproma :

℞ Aristol.....	5
Glycerin.....	35
Aquæ destillatæ.....	10
—FORNARA.	

For lesions upon the face :

℞ Ichthyol.....	3 ss.
Acidi salicylici.....	gr. x.
Tinct. benzoini.....	gtt. xx.
Ung. zinci oxidi.....	℥ i.
M. ft. ung.	

Or—

- R̄ Europhen. 0.5
- Olei amygdalæ dulcis. 10

Filter, sterilize, and inject one cubic centimetre.

- R̄ Airol 5
- Vaseline 45

M. S. Apply.

Or—

- R̄ Airol 5
- Glycerin 35
- Aquæ 10

M. S. Inject hypodermatically.

- R̄ Europhen 5
- Olei olivæ 100

S. Use by energetic and prolonged friction in slight extent of ~~surface~~ lesion.

In internal lepra the above sterilized and filtered, by subcutaneous injection.—GOLDSCHMIDT.

Or—

- R̄ Olei chaulmoogræ. 3i.
- Petrolati. 3ij.

M. S. Apply in conjunction with the oil internally.

—COTTLE.

- R̄ Potassii permanganatis 1-2
- Aquæ 1,000

Use warm as a wash and local dressing.

—CARRASQUILLA.

Leptomeningitis.

Inflammation involving the pia mater and arachnoid will be referred to under the various forms of meningitis and acute peri-encephalitis. The acute variety is distinguished by pain along the spine, coming on after a chill and growing rapidly worse, attended with radiations toward the extremities and about the body (girdle sensation). Spasm of the muscles of the back may produce simply rigidity or opisthotonos. Other muscles of the body may be the seat of rigidity, painful cramps, or spasmodic contractions; when the spasm affects the sphincters, retention of urine and obstipation result.

DIFFERENTIATION.—In chronic meningitis, while the back pain is increased by motion, the spasmodic element is lacking, though slight muscular twitchings may occur.

PROGNOSIS.—Slow recovery may take place, or death may be due to apnœa, or the condition may pass into a chronic form.

Though complete paralysis scarcely ever follows, there is a gradual increase in the weariness of limb and a peculiar heavy sensation.

TREATMENT.—Rest in cool, darkened room. Cool drinks, cool applications to the shaven head.

In robust subjects, wet cups to back of neck or phlebotomy.
—COLLINS.

In chronic spinal form, thermal-spring course; mild cold-water cure; internally, potassium iodide. If recovery follows, it is probable that we had in reality to do with neurasthenia or hysteria.—BRUNS AND WINDSCHEID.

(See "Pseudo-Meningitis.")

Leukæmia.

Two varieties of leukæmia are recognized: a lieno-medullary and a lymphatic. It is very rare.

DIAGNOSIS.—Characteristic of the spleno-myelogenous or first variety is the fact that myelocytes are the most abundant of the white corpuscles. In the lymphatic the greatest percentage is furnished by the mononuclear cells. Red corpuscles are decreased in number and the hæmoglobin is lessened in amount. Instead of there being 1 white to 500 or 1,000 red corpuscles, there is perhaps 1 to every 3.

There is in the first an involvement of the long bones, as indicated by tenderness; in the second an implication of greater or lesser extent of the lymph nodes throughout the body. In both the spleen is enlarged; at times greatly so. Cabot" calls attention to the variation in size of the myelocytes, the occurrence of intermediate cells, and the large number of nucleated red cells.

The onset is gradual, with increasing weakness and occasional pains in the region of the spleen. Anæmia with its accompanying symptoms comes on later and increases as the spleen enlarges.

Lymphatic enlargements in the neck, axillæ, and groins, otherwise unexplained, may point to the lymphatic form of leucocythæmia, or, as Kneis claims, eye changes, such as hemorrhage into the lid or conjunctiva, may be the initial sign of an acute attack.

Temperature is sometimes increased up to 103° F.

DIFFERENTIATION.—Hyperleucocytosis gives an increase in the number of white cells, but it is of temporary duration, while here the increase is permanent.

The various anæmias are to be distinguished. (See table on page 27.)

Hodgkin's disease would seem to be closely related, by the fact that there is said to be an occasional transformation of the latter into the splenic form.

PROGNOSIS.—Usually regarded as a fatal disease, the final stage of cachexia being reached within a year or more. Cure has been reported from the prolonged use of oxygen inhalations.

TREATMENT.—Arsenic seems to have but little effect unless pushed to its full limit.

Inhalations of oxygen, four litres being used daily in one instance. The patient was discharged cured after two months, the spleen being of normal size.—KÖSTER.

R. Acidi arsenosi..... gr. i.
 Pil. ferri carbonatis,
 Quinidinæ sulphatis.....āā ʒ i.
 M. ft. pil. No. xl. S. Two pills three times a day.

—DA COSTA.

Bone Marrow.—Twelve ribs of sheep were carefully scraped and chopped into small fragments, then rubbed up in a mortar with one pound of glycerin. This was allowed to macerate for

three or four days, being kept in a refrigerator during that time. It was then strained through gauze, and the resultant liquid given in teaspoonful doses three times a day.—JOHN S. BILLINGS, JR.

Arsenic is of more benefit than bone marrow, but the latter may be given when there is idiosyncrasy against arsenic.

℞ Liq. potassii arsenitis..... ℥ x.-xv.

—HANDFORD.

It is said that splenectomy has been resorted to with favorable result, but death from hemorrhage is an almost certain outcome of this procedure.

Lightning Stroke, Electric Stroke.

This is not necessarily fatal. There may be simply shock, burning of the surface, etc., or suspended animation. In the first class there is weakened heart beat, respiration is slow and sighing, and the surface may show evidences of discoloration; in the second, no evidence of life may be present. Respiration may cease, while the heart continues to act feebly; in such cases the face and lips are livid, the pupils dilated, and the corneal reflex may be absent.

TREATMENT may prove successful if artificial respiration is kept up—just as in the case of supposed death from drowning—for an hour or even two hours after breathing has seemed to stop.

Warmth to the surface. Stimulants hypodermatically.

Liver, Abscess of.

Suppurative hepatitis may be of traumatic or infectious origin. The first pronounced evidence of its existence may be a discharge of pus through some round-about channel.

DIAGNOSIS.—There is progressive loss of weight and strength and often marked lassitude and depression are noted; pain of

constant character is present over the liver, especially if suppuration approaches the surface, when it may be acute, or the pain may be referred to some distant part, as to the right shoulder. There may be a dry cough and dyspnoea when the pressure is upward. The temperature may be so slightly elevated as to escape notice, and is apt to be erratic. When fever is accompanied by recurrent chills and sweating, pointing to a focus of suppuration, the liver should come in for a large share of attention in the attempt to locate the pus.

The only trustworthy aid to positive diagnostication is exploratory aspiration. Even here a negative diagnosis is not warranted unless several attempts have been made, since either the abscess cavity may not have been reached, or the purulent contents may be too thick to be drawn off through the needle, or other elements of doubt may exist.

The point of puncture is in the seventh intercostal space in the axillary line upon the right side.

Enlargement may be made out, with bulging of the right hypochondrium and perhaps fluctuation, if the amount of pus is sufficiently large.

History of dysentery, with pain, tenderness, and enlargement of the liver, hectic, sweats and rigors, right-side posture, erratic temperature, progressive emaciation, and gastric disturbances are among the most constant symptoms. Profound depression and lassitude are out of proportion to the gravity of the disease and appear early, and insomnia may be an enduring symptom. Restlessness, headache, and irritability of temper are present in some cases.—GEORGE BEN JOHNSTON.

In hot climates the fact that dysentery has preceded the symptoms aids in the diagnosis of "tropical abscess." Tropical abscess may run its entire course without producing any subjective symptoms indicative of liver disease, a sudden lethal termination resulting from rupture into some neighboring organ or cavity.

DIFFERENTIATION.—Typhoid fever is at times suggested by the attending fever showing evening exacerbations; here the Widal reaction aids us.

Localized peritonitis may be simulated by a certain crepitation on palpation.

Empyema is excluded by the position of the retracted lung high up along the spine; still, abscess has been taken for empyema.

Gall stones are excluded by the lesser degree of pain and jaundice present.

Hydatids are unattended with fever or other symptoms until the cyst has attained considerable size.

Malaria may be simulated in those instances presenting symptoms of chill, fever, and sweating at more or less regular intervals; but in malaria the recurrences are more typical and the spleen is more greatly enlarged, while by the use of quinine it may be excluded, as well as by the absence of the plasmodium.

PROGNOSIS.—Recovery is the exception unless surgical means are instituted or a favorable direction is taken by the pus when it discharges spontaneously, as into the stomach, colon, or lung.

The duration is from six to eight weeks. Small tropical abscesses may exist for years in a quiescent form and then undergo enlargement and burst.—FAYRER.

Or, they may be absorbed or partially absorbed, and become encapsulated.—MACLEAN.

TREATMENT.—Medicinal treatment is of little avail. When pus is located a free opening must be made in the most dependent part. If protective adhesions have not formed, protect the peritoneal cavity before opening the abscess.

In acute hepatitis (before suppuration):

℞ Pulv. ipecac..... ʒi.
Mucil. acac q.s.
M. ft. pil. No. iv. S. At a dose, and repeat every six hours.

—MACLEAN.

Absolute rest, light diet, relieve bowels by mercurial purge.

To evacuate hepatic abscess, the trocar is preferable to incision.—J. KINGSTON FOWLER.

No method is successful which fails completely to evacuate the abscess and allow free drainage. Puncture with the trocar is unsurgical, but an aspirator needle may be used to locate the cavity with accuracy.—JOHNSTON.

Rupture into the peritoneum calls for prompt flushing of the peritoneal cavity.—HULKE.

Ammonium chloride is a specific in tropical abscess of the liver. As much as twenty grains may be given three or four times a day.—WILLIAM STUART.

Liver, Acute Yellow Atrophy.

After a period of symptoms referable to the stomach, slight jaundice, fever, and diminished liver dulness are noted. It occurs in the adult, chiefly in women. Severe vomiting, perhaps hemorrhagic, is attended with intense headache, muscular and arthritic pains, convulsions, and possibly delirium and coma. The temperature is not high until just before death, when it may be 104° F.

DIAGNOSIS.—The condition is extremely rare in this country.

Diminished size of the liver with jaundice, epistaxis, marked restlessness, nervousness, and possibly convulsions, point to this condition. In alcoholics the liver area may not be diminished, and especially if hypertrophic cirrhosis has existed crystals of leucin and tyrosin may be found in the urine. The progress of the disease is rapid.

DIFFERENTIATION.—In phosphorus poisoning the symptoms are very similar, but the liver is enlarged instead of being decreased in size. There is more vomiting and the nervous element is less pronounced.

In parenchymatous hepatitis the jaundice is due to obstruction, and the disease pursues a much slower course.

In yellow fever there are severe backache, injected eyes, more fever, and less nervous excitation.

PROGNOSIS.—Death follows the advent of the more severe symptoms within a few days, milder symptoms having extended over a period of a week or more.

TREATMENT is symptomatic.

Liver, Amyloid.

Amyloid degeneration is a condition accompanying cachectic states, chronic nephritis, rachitis, carcinoma, leukæmia, pseudo-leukæmia, and the like. There are emaciation, anasarca, and various signs of debility, often accompanied by diarrhœa. Albumin is present in the urine, which is of low specific gravity. Liver dulness may embrace an area extending from the crest of the ilium as high as the third rib. There is no tenderness on pressure.

DIAGNOSIS.—When the liver has reached such a size as to cause subjective sensations of fulness or even weight in the right side, and the symptoms above mentioned suggest this condition, the diagnosis is warranted, especially if suppuration of long duration has been a feature of the case. The lower edge of the liver is rounded, firm, and smooth, except in the presence of cirrhosis and syphilis, when the surface as well as the edges of the liver may be irregular.

DIFFERENTIATION.—This must be made from other enlargements, such as those due to hydatids, to passive congestion, and to fatty liver.

PROGNOSIS.—Death usually occurs within six months after excessive enlargement of the organ renders the diagnosis possible.

TREATMENT is directed to the suppurative or other disease upon which the condition depends.

Liver, Cancer of.

We must here include sarcoma as well as carcinoma.

DIAGNOSIS is more difficult in the absence of enlargement, but is facilitated by the history of primary cancer having existed elsewhere. If there has been progressive hypertrophy, and especially if cachexia exists, it is less difficult. Three varieties of primary cancer of the liver with cirrhosis may be recognized. In the first the duration is short, from four to six months; there is some ascites; no jaundice; spleen normal or a little enlarged; abnormal development of subcutaneous abdominal veins; one lobe (generally the right) of the liver enlarged and carcinomatous, the other atrophied and cirrhotic. The second variety, which is much rarer, is characterized by a diminution in the size of the liver. In the third variety, which is the most common, the ascites is generally hemorrhagic, jaundice slight (or marked), spleen generally a little enlarged, and the liver usually much enlarged and presenting an irregular nodulated surface.—PENNATO.

DIFFERENTIATION.—The symptoms are more severe than in fatty or amyloid liver, and the presence of jaundice excludes the latter. Abscess has its chill, fever, and sweat, while hydatid disease presents a liver of nodular surface, which is softer and not attended with such prompt wasting of the body. In doubtful cases the aspirating needle may be resorted to. The nodular liver of gummy syphilis associated with amyloid changes usually has a specific history as a guide; the gummata are larger and softer than cancer nodules, they are of slower development, and disappear under antisyphilitics. The development of ascites in any instance of prolonged jaundice in which the liver is not markedly enlarged rather favors the diagnosis of cancer. Here often a history pointing to alcoholism on the one hand, or to primary cancer on the other, or a family history of cancer must be relied upon. Sarcoma is almost in-

variably secondary; often to disseminated, melanotic sarcoma of the skin. The diagnosis depends largely upon the history of the primary disease.

Liver tumor is distinguished from that of the stomach, colon, etc., by its complete dulness on percussion, while the latter gives a dull tympanitic note. The former, too, changes its position in respiration much more than the latter.

PROGNOSIS in both forms is bad. Death occurs within eighteen months, often much earlier.

TREATMENT.—No hope can be held out from any known therapeutic resource. Keep down the pain with morphine and relieve the gastro-intestinal complications.

Liver, Cirrhosis.

Chronic interstitial hepatitis gives no distinctive early signs. If there is a history of alcoholism and ascites has developed, this form of hepatitis is to be suspected.

DIAGNOSIS.—If physical exploration reveals a much enlarged or much reduced liver in association with symptoms pointing to impeded portal circulation, causing gastric catarrh, hemorrhoids, and œdema of the lower extremities, in a subject of sallow complexion who gives an alcoholic history, suspicion is strongly directed to this condition. Two forms must be differentiated: that which remains hypertrophic, and that which undergoes the shrinking process. The former is more likely to be associated with jaundice, but not with ascites. It is rare. The atrophic form is mostly seen in gin drinkers, and is usually attended with marked ascites. It furnishes almost two-thirds of the instances. A point of the greatest worth (when it occurs) is the presence of ascites without dropsy in other portions of the body. Hæmatemesis is a not uncommon symptom.

Hypertrophy of the last phalanx of the fingers with in-

curved and altered nail is a not infrequent symptom of hypertrophic cirrhosis in children.—GILBERT.

DIFFERENTIATION.—Dropsical effusion attends tuberculous peritonitis, and many of the symptoms in the two conditions are similar, but in cirrhosis there is absence of fever and abdominal tenderness. The enlarged liver of cirrhosis simulates that of amyloid and cancerous degeneration, as well as hydatid liver. In cancer the liver is more uneven, the patient is apt to be older, often gives no history of alcoholic excess, and ascites is more common. The presence of jaundice excludes amyloid liver. Obstructive biliary or secondary cirrhosis presents a liver at first hard and enlarged, afterward diminishing in size, but the course is more rapid than in hypertrophic cirrhosis proper. The existence of mixed cirrhotoses explains the ascites sometimes occurring in hypertrophic cirrhosis or a jaundice occurring in the course of an otherwise typical form of Laennec's cirrhosis.

PROGNOSIS.—Moderate degrees of cirrhosis are compatible with long life, and the course of the disease is chronic; the patient is usually carried away by some intervening or associated complication. Symptoms of cerebral oppression with a typhoid state may precede by a few days the lethal outcome.

TREATMENT.—*Prophylaxis* would require attention to diet and abstinence from alcoholic drinks at other times than at meals.

Chronic gastric catarrh, which always accompanies the new condition, is to be vigorously combated by washing out the stomach, and by the free use of hot water and of alkaline waters taken before meals. Occasionally a pill containing:

℞ Argenti nitratis,
Extr. hyoscyami,
Extr. nucis vomicæ.....℥℥ gr. ss.

—J. BARR

The condition of congestion requires daily saline and mercurial purgatives, or a course of Carlsbad or Vichy waters. Alco-

Alcohol must be forsworn at first. Freshly made lemonade and pure water furnish the best drinks. In later stages, not merely comfort but benefit may be derived from alcohol.—DYCE DUCKWORTH.

Exclusive milk diet, potassium iodide, gm. 1–2 daily.—LANCET.

Potassium iodide is badly tolerated in some instances of hepatic disease. The sodium salt may prepare such patients, as well as those in whom depressing effects result from the potassium iodide, for the subsequent favorable use of the latter.—BRIQUET.

In non-chronic cases :

℞ Sodii bicarb. ʒ ss.
 Infusi gentianæ ʒ vi.
 M. S. Tablespoonful three times daily.

—DA COSTA.

For the ascites :

℞ Diuretini gr. cx.
 Aquæ menthæ pip ʒ ij.
 Spir. gallici ʒ i.
 Eucalyptoli gtt. xxv.
 M. S. To be taken during twenty-four hours.

—BEST.

℞ Resinæ copaibæ ʒ iij.
 Spiritus rectificati ʒ i.
 Mucilag. acaciæ ʒ ij.
 Aquæ q.s. ad ʒ xij.
 Fiat mistura. S. A tablespoonful to be taken three times a day.

When pressure symptoms occur from fluid, there should be no delay in tapping.

Caution.—Employ slow method with Southey's cannula, or bandage as the fluid flows. In the later stages do not tap frequently unless respiration becomes too much embarrassed. In chronic forms quinine and the mineral acids are useful.

℞ Podophyllin gr. vi.
 Capsici gr. iv.
 Pulv. rhei gr. xij.
 M. ft. pil. No. xii. S. One every second night.

—DA COSTA.

Or—

℞ Pulv. rhei rad. 3 ij.
 Ext. aloes. 3 m.
 Ext. colocynthidis gr. vi
 Ext. rhei q.s.
 M. et ft. pil. No. lx. S. To be taken twice daily.

—BAMBERGER.

For a bath :

℞ Acidi muriatici. ʒ iij.
 Acidi nitrici. ʒ ij.
 Aquæ ʒ v.
 M. S. Add six ounces to two gallons of water.

—RONALD MARTIN.

In hypertrophic cirrhosis, milk diet, bitter tonics, strychnine.

In the active crises, rest in bed, calomel in small doses, and quinine when fever is present.—SEMMOLA.

For jaundice, which is always a result of obstruction of the ducts, and not due to sluggish secretion, give belladonna in full doses to dilate the tubes by its action on the unstriated muscular fibres, and bicarbonate of sodium to render the bile more fluid: the salines to deplete and relieve pressure.

In biliousness we stimulate the functions of the liver. For this we use ipecac and euonymus. These in combination with calomel are best.—MICHAUX.

For sluggish liver :

℞ Acid. nitrohydrochlor. dil. ℥ x
 Ext. podophylli fld. ℥ x
 Ext. taraxaci fld. ʒ i.
 Tinct. nucis vomicæ ℥ x
 Syrup. zingiberis ʒ ss.
 Aquæ menth. pip. q.s. ad ʒ ss.
 M. S. In water three times a day.

Urea, 5 to 20 gm. as daily dose, has been recommended.

Liver, Fatty.

Here the enlargement is uniform but usually of moderate degree, and the fact of its occurrence in those who have been high livers and hard drinkers points to this condition, but especially so does the existence of pulmonary phthisis.

DIAGNOSIS.—Aside from the greater tendency to diarrhoea, the symptoms are much the same as in hepatic congestion. Jaundice is frequently absent (never present—OSLER). While smooth and soft at first, the edges, later on, may be found indurated on palpation. This may be due to a form of sclerosis, and the cirrhotic signs may increase as the organ diminishes in size.

Acute fatty degeneration may be seen in those poisoned by phosphorus and in acute yellow atrophy.

Rosenfeld says there is no fatty degeneration, but an albuminous degeneration of the cell followed by infiltration as a reparative attempt.

Liver, Hydatid Cyst.

Echinococcic disease of the liver is rare in this as in all temperate climates. When small, the cysts may cause no symptoms; when large, they produce a discomfort by reason of their weight and may, by upward pressure, cause dyspnoea or interference with the heart action.

DIAGNOSIS.—The peculiar fremitus known as the hydatid thrill, when it can be felt by the palpating hand while the abdomen is tapped lightly with the finger, denotes superficially situated cysts.

DIFFERENTIATION must depend upon something more than this usually characteristic sign, since carcinoma and other liver lesions have at times given a deceptive fremitus of similar nature. The history of slow development is of value. Tap-

ping and obtaining a fluid which gives a saccharine reaction is strongly in favor of this disease, while if hooklets are found the diagnosis is confirmed.

PROGNOSIS.—Spontaneous recovery is possible, but scarcely ever observed after the cysts have reached such a size as to produce symptoms. Surgical operation may give relief.

TREATMENT.—Incision over the lower border of the liver and evacuation of the cyst have been successfully carried out, while even tapping has in some instances been followed by recovery. If abscess develop, with symptoms of chill, fever, and sweating, the treatment is that indicated under “Abscess of the Liver.” (See also hydatid disease.)

Liver, Passive Hyperæmia.

This condition of enlargement is attended with a peculiar pulsation or apparent dilatation from the inflow of blood. There is tenderness upon pressure, ascites is often present, and occasionally jaundice. A congested state of the stomach mucosa accompanies it from the same cardiac cause.

TREATMENT is directed to the valvular heart affection usually present.

Lithæmia, Acute.

In the condition usually termed “biliousness,” or what Fagge has called “hepatic dyspepsia,” there are furring of the tongue, anorexia, vomiting, especially in the morning, and persistent bitter taste in the mouth along with symptoms of slight feverishness. In lithiasis—the equivalent of gouty or uric-acid diathesis—besides the presence of lithuria as a more or less constant condition, the symptoms are often those of indigestion, with distress after eating, flatulency, and constipation, perhaps alternating with diarrhœa. The skin is usually hot and heat flashes alternate with cold perspiration. Jaundice of moderate degree is usually present. There is frontal headache, drowsiness, irri-

tability, depression, or vertigo. The urine, as a rule, is scanty, high colored, and very acid; xanthin and paraxanthin are present. Infants show lithæmia by the reddish deposit in the diaper. In the adult oxaluria or phosphaturia may exist, or the urine may show no deposit.

DIFFERENTIATION.—Gastro-intestinal catarrh presents an almost identical train of symptoms. Gout is excluded by the absence of joint symptoms. However, in those predisposed by heredity, typical gouty attacks may follow, indicating that the symptoms were properly attributable to gout.

TREATMENT.—See under "Cholelithiasis."

In infants, hot bath.—RACHFORD.

Lithæmia, Chronic.

The symptoms are here mainly those of chronic intestinal indigestion with catarrh.

DIAGNOSIS.—Gastric and intestinal flatulency is a pronounced symptom, and constipation is usually present. The complexion is sallow and frequently bile stained. Morning headache, depression and dull memory, pain in the loins and the right shoulder are common, while myalgias in general are frequent symptoms. Various paræsthesias, such as tingling, pricking sensations of the peripheral nerves, or numbness, are frequently complained of. The subject's skin is dry, and eczemas as well as erythematous rashes are likely to occur. The harsh inactive skin may at times become moist from an excess of sweating. As in the acute form the urine is dark colored and shows an abundance of uric acid and of urates. Cylindroids are not uncommonly found, but true casts are rare.

There is quite frequently rapid heart action, and pseudo-angina pectoris may occur late in the disease.

DIFFERENTIATION.—The jaundice of chronic lithiasis is distinguished from that due to other forms of obstruction by: 1.

The continuous or occasional presence of bile in the faeces. 2. Distinct remissions in the intensity of the jaundice. 3. Normal size or only slight enlargement of the liver. 4. Absence of distention of the gall bladder. 5. Presence of febrile disturbances. 6. Duration of jaundice for more than a year.—NAUNYN.

PROGNOSIS.—The condition predisposes to the formation of calculi in the gall bladder, in the kidney, and in the urinary bladder. Beside being subject to nephritic and renal colic, lithæmic individuals are prone to muscular rheumatism, goutiness, and glycosuria, and they often, too, become obese. Chronic interstitial nephritis may also be the outcome of the lithæmic state.

TREATMENT.—

In biliary lithiasis :

R̄ Sodii benzoatis,
Sodii salicylatis,
Pulv. rhei 5 gm.
Pulv. nucis vomicæ..... 0.50 cgm.

M. Divide into twenty wafers. S. To be taken with each meal for one or two months.

—HUCHARD.

Alkalies and alkaline waters.—BARTHOLOW.

Lithium citrate, gr. xx., three times daily.—DA COSTA.

In those who do not observe proper diet, acidum nitricum dil., ℥ x., in half a glass of water thrice daily. Pil. rhei comp. at bedtime occasionally.—HUGHES.

R̄ Tinct. belladonnæ ℥ xvij.
Vini colchici rad..... 3 ij.
Liq. potass. citrat q.s. ad ʒ iv.
M. S. Dessertspoonful well diluted, every three hours.

—POTTER.

Diet.—Plenty of water with meals. No alcoholic beverages. Minimize the amount of nitrogenous food ingested.

Lumbago.

Pain in the small of the back is a symptom in so many varied affections that, when due to myalgia or to neuritis of rheumatic origin, it must be carefully distinguished from kidney, spinal, and other affections.

DIAGNOSIS.—It is desirable if possible to separate the muscular from the nerve cases, and both from those instances of kidney pain attended with very acid urine. In rheumatic myalgia the pain, usually bilateral, is intensified, and indeed often present only on motion; bending and twisting movements especially aggravating it. Resuming the upright posture after stooping over is particularly painful. The urine does not scald. Rheumatic neuritis is less persistent during rest. At points where nerves pass through the fascia there is local tenderness.

DIFFERENTIATION.—Kidney pain with hyperacidity, according to Edgeworth, is constant, not made worse by movement, and extends from the lumbar region forward around the trunk, at times into the groin, and down into the testes, much as in the pain of renal calculus. The muscles are here not tender to the touch, but hyperæsthetic zones are found above the pubes and Poupart's ligament. The urine is clear at first, but deposits brick-red urates on cooling.

The backache from uterine disease is associated with symptoms referable to the pelvic organs.

The lumbar pain of early variola ceases upon the appearance of the eruption.

Incipient caries of the spine gives a fixed local point of tenderness.

Rachialgia of meningeal disease is likewise localized and radiating.

TREATMENT.—Salicylates up to point of tolerance, especially in neurotic cases.

℞ Salol..... 5
 Phenacetin..... 8
 M. ft. capsul. No. xv. S. Three or four daily.

℞ Tinct. capsici 1
 Aquæ..... 5

M. S. Soak a piece of lint in the above, apply, and cover with oiled silk or protective, for half an hour three or four times daily.

—EDGEWORTH.

Or—

℞ Atropine..... gr. iv.
 Oleic acid (more or less, p.r.n.)..... ʒ i.
 Castor oil 3 i.
 Oil of lavender..... ʒ v.
 Rectified spirit..... q.s. ad ʒ i.
 M. S. Apply locally.

—MARTINDALE AND WESTCOTT.

Or—

℞ Tinct. iodi,
 Liq. ammon.,
 Collodion..... ʒss p. ss.
 S. Apply with brush.

℞ Potass. iodidi ʒ ij.
 Vini colchici sem..... ʒ i.
 Syr. zingiberis ʒ iss.
 Aquæ..... q.s. ad ʒ iv.
 M. S. Dessertspoonful every three hours.

—GERHARD.

Or—

℞ Sodium salicylate..... ʒ ss.
 Potassium iodide..... ʒ ij.
 Compound syrup of sarsaparilla..... ʒ iss.
 Water q.s. ad ʒ iiij.
 M. S. A teaspoonful in water thrice daily, after meals.

—SOLIS-COHEN.

Rest in bed, warmth, hot applications, hypodermic of morphine.

℞ Sodii glycerophosphatis..... gr. iv.-vij.
 S. Hypodermatically.

—ROBIN.

Dry cupping often acts as if by magic. Hot ironing often gives relief.—C. J. HARE.

℞ Olei succini,
 Spiritus camphoræ,
 Spiritus ammoniæ arom. āā 10
 M. S. As a linament.

—WM. MURRELL.

℞ Extr. cimicifugæ fld.,
 Syr. acaciæ āā ʒ ss.
 Aquæ amygdalæ amaræ ʒ iij.
 M. S. Teaspoonful every three hours.

—BARTLETT.

Or—

℞ Extr. cimicifugæ fld. ʒ ij.
 Ammonii chloridi ʒ i.
 Aquæ laurocerasi,
 Syr. simplicis āā ʒ i.
 M. S. Teaspoonful thrice daily.

—POTTER.

After a brisk purgative:

℞ Sodii salicylatis gr. v.
 Infusi gentianæ ʒ i.
 Ætheris ℥ x.
 Tinct. zingiberis ℥ x.
 M. S. Every four hours.

Or inject subcutaneously sulphuric ether, ℥ x. daily, increased to ℥ xxx.—BRINDLEY JAMES.

Typical lumbago arising suddenly during an effort, showing severe pain, increased by the slightest movement, is really a sprain of the sacro-vertebral articulation. It is best relieved by rest on the back, a hard pad under the joint, and exercises consisting in flexion and extension of the lower limbs on the trunk.—HELDENBERG.

(See also "Rheumatism, Muscular.")

Lungs, Œdema of.

Acute pulmonary œdema may come on suddenly as the result of congestion from any cause. It is more likely, however, to be of chronic nature, in connection with other dropsical symptoms of organic disease.

DIAGNOSIS.—There is embarrassed respiration, and over lung surfaces are heard fine bubbling râles and crepitation.

DIFFERENTIATION from the acute stage of pneumonia, which may be closely simulated, by the oppressed breathing and *u*cultatory sounds, by the coarser nature of the râles, their *u*distribution, absence of fever, presence of cyanosis and *u*what noisy character of the breathing, and especially by *u*frothy expectoration.

From angina pectoris, by the dyspnœa.

From syncope, by the active beating of the heart.

From simple uræmic dyspnœa, by the greater suddenness of attack.

PROGNOSIS is very bad for the acute form coming on in the course of grave organic disease, in injury to the nervous system, or as a sequel of other acute pulmonary affections.

TREATMENT.—A large blister over the chest wall or mustard plaster. Ammonium carbonate, camphor, and other stimulating expectorants.

R̄ Plumbi acetatis..... 0.05
 Sacchari..... 1
 M. ft. pulv. Dentur tales doses decem. . S. One every hour.

—NOTHNAGEL

Give diffusible cardiac stimulants, alcohol, brandy, champagne, black coffee, or caffeine. Sodium benzoate, gr. v., subcutaneously.

R̄ Ammon. carb..... gr. v.
 Spir. ætheris comp..... ℥ x.
 Syr. senegæ..... ʒ ss.
 Syr. pruni virg..... ʒ ss.
 Aquæ.....q.s. ad ʒ i.
 S. For a dose.

In idiopathic œdema, strong coffee, alcoholics, musk.

R̄ Æther. camphorat..... ℥ xx.
 S. By hypodermic every half-hour or hourly.

—ROTH.

Or—

R Camphoræ	5
Olei Olivæ (steril.)	10
M. S. Inject five to ten drops.	

In inflammatory œdema in pneumonia, as a last resort, resection.—GOODMAN.

With dropsy, drastic cathartics and diuretics.

When very acute, inhalation of oxygen; cupping the chest; hypodermic of morphine.—GANNETT.

R Aquæ camphoræ	℥ i.
At dose every hour or two.	

Our chief reliance will be counter-irritation and poultices.

Phlebotomy would suggest itself for a strong person suffering from an acute disease. The heart should be stimulated.—

L. F. BISHOP.

Copious bleeding is, at times, alone capable of saving the patient from almost certain death.—HUCHARD.

In children :

R Tinct. strophanthi.....	℥ i.-ii.
Every three hours to child of seven to nine years.	

—A. M. GREGOR.

Lymphadenitis.

Tuberculous inflammation of the lymphatic nodes is the form requiring the most careful differentiation. It is usually spoken of as scrofula, for whose clinical picture we refer the reader to the chapter thus entitled.

DIAGNOSIS.—The submaxillary nodes and the cervical, usually more upon one side of the neck than the other, become tender, inflamed, and suppurate, especially in children. Other nodes become involved, as the bronchial, retroperitoneal (phthisis mesenterica). Caseation without suppuration is the usual outcome, and an abdominal tumor may be palpated or it may give rise to pressure symptoms.

DIFFERENTIATION.—From lymphadenoma, by the nodular swellings being more tender, more closely matted together, and hence less freely movable than is the case in Hodgkin's disease. In the latter, too, the growth does not tend to suppurate, but pursues a more rapid course and may occur at any age.

From leucocythæmia, by the absence of characteristic leucocytosis and by the comparative rarity of the latter.

From lymphoma implicating a single group of lymph nodes, by the lesser degree of tenderness and pain and the greater hardness of the mass.

Cervical enlargements from syphilis are accompanied by other signs of infection, especially upon the mucous membranes when excessive, and suppuration does not occur.

If due to carcinoma, the nodular enlargement is secondary and more indurated, while in sarcoma the progress is very rapid.

PROGNOSIS.—Spontaneous cure not infrequently takes place. Characteristic scarring in the region of the neck is not uncommon in adults who give no history of having been treated with any degree of care during the active progress of the affection in their childhood.

TREATMENT.—The same as that for tuberculosis in general, including all that pertains to hygiene, etc.

Local applications of iodine are usually very efficacious.

Lymphangitis.

Streaks of bright red extending in the axis of a limb, with tenderness along the course of lymphatic chains, œdema, pain and swollen nodes, should cause close inspection of the distal extremity for a purulent focus or point of infection.

DIAGNOSIS.—A history of infection at autopsy or dissection, in handling meat and fish, from the bite of some venomous animal or insect, from exposure of a wounded surface to decomposing matter, the presence of a skin disease or of gonorrhœa will

aid us in deciding upon the nature of an acute inflammation of the skin, attended perhaps at first with so much œdema as to mask the cordlike thickenings of lymphatic channels subsequently to be made out. In the superficial variety of tubular form the tender red streaks suffice for an immediate recognition of the condition.

DIFFERENTIATION.—From erysipelas by the more streaked nature of the redness instead of the creeping patch with marginate outline.

Erysipeloid (Rosenbach) is a special form of reticular lymphangitis, starting usually upon the finger and spreading in a ring-like manner upon the back of the hand, while the part nearest the point of infection (putrid animal matter) tends to get well.

PROGNOSIS.—In virulent forms successive clusters of lymphatic nodes may swell and suppurate. Sepsis from absorption may endanger the patient. Chronicity and lymphatic occlusion may be a result, causing conditions of elephantiasis or lymphœdema.

TREATMENT.—Let out any pent-up pus at source of inflammation; disinfect all wounds. Place limb at perfect rest. Apply wet antiseptic compresses. Institute supporting and stimulating treatment early. In the superficial form, scarification.

Apply liq. plumbi subacetat. dil. constantly until the inflammation is reduced.

Over the inflamed nodes, tincture of iodine.

When great pain :

℞ Extr. belladonnæ, ʒ i.
Glycerini, q.s. ut ft. molle.
S. Apply freely.

—WARING.

Caution.—If a large surface is involved or there is any open surface, use with care.

In erysipeloid :

℞ Ichthyoli ʒi
 Lanolini ʒij.
 Adipis. q.s. ad ʒi

M. S. Apply.

℞ Ichthyoli,
 Tinct. benzoini co., .
 Bals. peruviani. āā p.ā
 M. S. Apply.

Meningitis, Acute.

Headache of severe type, exacerbating at regular intervals and quickly followed by high fever, delirium, and possibly convulsions, is the most striking symptom.

DIAGNOSIS.—The pain is augmented by bright light and by all noise. Vomiting is an early symptom. The pulse is frequently rapid. Besides photophobia we may have inequality of the pupils, disturbances of vision, neuritis, and ptosis. In all conditions suggesting meningitis the eyes should be carefully examined for both motor and visual defects. The chest shows early evidence of inharmonious action with the diaphragm. Inspection of the naked trunk is necessary, but the clothing should be removed slowly not to excite undue activity of respiration. There is likewise immobility or depression at the umbilicus instead of normal elevation with each inspiration. Kernig's sign¹ is present in all forms of meningitis, but it serves to distinguish them from simple dynamic disturbances.

DIFFERENTIATION.—Various acute diseases, including pneumonia and typhoid fever, may be closely simulated by the early symptoms. An involvement of the cranial nerves renders the diagnosis simpler.

From tuberculous meningitis, by the lack of history of infection and prodromal symptoms. The course is more rapid. Herpes labialis is frequently present, while it is almost never seen in the tuberculous form. A circumscribed meningitis may complicate disease of the ear.

A basic meningitis in infants under one year of age, coming on with severe vomiting, extreme head retraction, and stupor passing into coma, which may last for several weeks—the retraction persisting till death—has been shown to be independent of tuberculosis.

Cerebral effusion may be simulated in children showing early collapse and stupor with gradually increasing unconsciousness.

The following table, given by Mr. Langford Symes, will serve to distinguish the conditions:

<i>Hydrocephaloid state from diarrhoea.</i>	<i>Cerebral effusion (as in tuberculous meningitis).</i>
Diarrhoea.	Constipation.
No ocular paralysis.	Ocular paralysis and squint.
No rise of temperature.	Slight feverishness.
No headache.	Headache (if old enough to complain).
No tension or bulging of the fontanelle.	Bulging fontanelle.
No rigidity.	Rigidity and retraction in many cases.
No retraction.	

TREATMENT.—*In children with signs of posterior basic meningitis*, incision of the tympanic membrane of the ear often gives prompt relief from threatening symptoms, even in the absence of evidences of ear affection.—G. P. FIELD.

Puncture of the tympanum.—BARLOW.

For an adult, cold compresses to the head.

℞ Hydrarg. chlor. mitis. gr. ij.
 Extr. jalapæ. gr. viij.
 M. For two pills. S. To be taken at once.

—NIEMEYER.

Meningitis, Chronic.

Here, just as in hæmatoma of the dura mater, unless we have injury, sunstroke, or syphilitic infection to guide us, the diagnosis may be established only with great difficulty. Many instances are due to alcoholic excesses.

DIAGNOSIS.—Irritability, headache, perhaps loss of mental power, delirium, etc., are present. When purulent the condition

is attended with high temperature and an aggravation of all the symptoms, plus convulsions and perhaps coma.

DIFFERENTIATION.—In brain tumor, there is loss of power in the limb, and increasing optic neuritis.

If after two weeks optic neuritis continues to increase and coma does not develop, the diagnosis of tumor is almost certain.—**GOWERS.**

Hysteria lacks the increase in temperature, and if strabismus is present it is convergent.

(See "Hydrocephalus.")

Meningitis, Cerebro-Spinal.

Spotted fever presents such an ever-varying symptom complex that only the salient points in early diagnosis can be touched upon. We have the usual chill, headache, backache in the prodromal or invasion stage, but the most characteristic pain is that in the back of the neck, which may be of a stinging character, short in duration, and followed by retraction of the head. There is usually early and repeated vomiting, which may be of a projectile character. The facies is expressive of suffering and the patient tosses in bed, demanding relief from the excruciating pain in the head. Darting pains may extend especially into the limbs, and since the joints at times become swollen and tender an erroneous diagnosis of rheumatism has more than once been made. The spinal muscles are, however, often rigid and the skin is hyperæsthetic. The delirium, which may alternate with convulsive seizures or with stupor, is often of a cheerful type, in which singing, animated conversation, and tendency to joking are striking features.

Eruption.—The spotting is not so constant as the name would imply. When pronounced it is macular, somewhat resembling measles, but with greater tendency to purpuric coloration.

tion. When purpuric from the onset, with ecchymoses, the type of fever is usually severe and the prognosis of a rapidly fatal ending is warranted.

DIFFERENTIATION.—Differential diagnosis involves the distinction from tuberculous meningitis as well as from typhus, rheumatism, and from the nervous variety of influenza. A pseudo-meningitis has also been described resembling a rudimentary or infectious cerebro-spinal meningitis. In some instances the symptoms must be considered the product of hysteria. The temperature is not so high nor so lasting and does not correspond to the severity of the symptoms. The chief aids are the epidemic prevalence and the inconstant nature of the symptomatology. Lumbar puncture (for technique see “Tuberculous Meningitis”) may disclose the presence of Weichselbaum’s meningococcus intracellularis, confirming a doubtful case. These cocci have strong light-refracting capsules. They resemble the gonococci and are generally decolorized by Gram’s method.

Hysterical pseudo-meningitis improves under suggestion.

PROGNOSIS.—Malignant forms may end in death following a mild delirium which lasts but a few hours. A protracted form of the disease may extend over several months. In a moderate average case convulsions may set in after a fortnight.

TREATMENT.—Hot packs and hot cloths applied for about an hour at a time. This is more easily carried out than are hot baths.—SCHLESINGER.

When temperature is low and pulse small, baths at 104° F. of ten minutes’ duration.—AURECHT.

℞ Potass. bromidi. 3 iss.
 Sol. opii comp. (Squibb’s) 3 iss.
 Syr. zingiberis,
 Aquæ caryophylli,
 Aquæ puræ.....ââ q.s. ad 3 iv.
 M. S. A teaspoonful every two or three hours by day ; less often by night.

A suitable formula for eggnog is as follows:

- ℞ Granulated sugar..... 1 tablespoonful
- Pure rye whiskey 1 tablespoonful
- Fresh milk..... $\frac{1}{2}$ tumblerful
- A fresh egg well beaten up.
- Hot water enough to fill a common-sized tumbler.

—HUTTON.

- ℞ Tinct. opii deodorat.
- Extr. gelsemii fld ℥ss ʒi
- Syr. limonis ʒij
- Aquæ fœniculi ʒiiss
- ℞ S. Teaspoonful every two hours.

—BARTHOLOW.

After the effusion :

- ℞ Olei nigellii..... ℥v.
- Saponis
- Præp. acacie ℥ss ʒi.
- ℞ et ft pil. No. xx. S. One to three pills.

—SCUDLIX.

In after-remaining convulsions :

- ℞ Potass. bromid. ʒss.
- Syr. marshmall. ʒss.
- Aquæ dest. ʒi.
- ℞ S. Teaspoonful every two hours.

—RINGER.

- ℞ Tinct. physostigmat. ʒi.
- Pot. bromid. ʒiiss.
- ℞ S. Teaspoonful every two hours.

—N. S. DAVIS.

- ℞ Potass. bromid. gr. v.-vi.
- Give three times or four times to a child of five years.

—J. LEWIS SMITH.

For a permanent injection, hydrargyri chloridum corrosivum, $\frac{1}{2}$ gr. depending upon the age of the patient.—

℞ ANODYNE

During treatment, quiet in darkened room, intelligent nursing, and potassium cyanide.—F. B. MAYNARD.

Meningitis, Acute Serous.

This form occurs at all ages. A history of otitis media, acute infectious processes, alcoholism, excessive use of morphine or cocaine, traumatism, or undue mental strain, may give an etiological clew for diagnosis.

Only about twenty-seven cases have been recorded in literature, to which are to be added twenty instances of alcoholic "wet brain" by Dana." Boenninghaus says that so-called idiopathic acute hydrocephalus is always an exudative, never a transudative process. The benign form is an affection *sui generis* and may end spontaneously.

DIAGNOSIS.—This is to be made only when an affection giving the symptoms of purulent meningitis, abscess, or tumor of the brain is cured suddenly within a very short time either with or without lumbar or ventricular puncture. The local signs include rigidity of the neck, hyperæsthesia, exophthalmos, pain in the limbs, and possibly paralysis.

DIFFERENTIATION is from latent abscess of brain, acute encephalitis, etc.

The acute form suggests simple purulent or tuberculous meningitis; the chronic resembles tumor, or, in some instances, neurasthenia. There is little headache and no explosive vomiting.

In suppurative meningitis the temperature goes higher.

PROGNOSIS.—In the alcoholic form, if the patient has a stiff neck he usually dies.—DANA.

A malignant form occurs, which is always fatal.—BOENNINGHAUS.

TREATMENT.—Mercurials.—QUINCKE.

When fatal issue seems imminent, tap the ventricles.—MORTON PRINCE.

In alcoholic form, wash out stomach. Hot milk every two

hours, eggs, etc. Strychnine, gr. $\frac{1}{60}$, every two hours; ice cap; leeches; blister at back of neck. In coma, tap spinal cord.—DANA.

Meningitis, Tuberculous.

If a meningitis develop in a child suffering from pulmonary disease, it is probably tuberculous. There are, however, no positive differential signs in the first stage.

DIAGNOSIS.—Vomiting of propulsive character without pain, nausea, or discoverable cause, convulsions with opisthotonos, drowsiness, irregular respiration and pulse, and unusual constipation, all point to this affection. There is a preponderance of nervous symptoms and a general failing of the health is noted, with disagreeable change of the child's nature shown by moroseness and irritability. Headache is paroxysmal and severe. If tubercle bacilli can be found in the spinal serum drawn off by lumbar puncture, the diagnosis is thus made positive. After several weeks of prodromal symptoms the temperature increases, there is difficulty of respiration and the abdomen is retracted.

In meningitis the cerebro-spinal fluid is invariably cloudy, and microscopic examination will show the presence of the bacilli if it be tuberculous. There is also an increase in albumin. Culture and inoculation experiments can be made.

To tap the vertebral canal, a large sized hypodermic needle is inserted between the third and fourth, or fourth and fifth lumbar vertebrae in the median line, or laterally, under strict antisepsis.

DIFFERENTIATION.—In simple meningitis the onset has been described as "stormy," with rapid development and higher temperature. A convulsion perhaps ushers in the symptoms, while in the tuberculous form this is a late manifestation.

In cerebro-spinal meningitis, there is a characteristic eruption and vasomotor symptoms occur earlier.

In malaria, the therapeutic test by quinine may solve the question.

In typhoid with brain symptoms and atypical course, appropriate tests upon both sides may have to be made. Rhythmic disturbance of breathing is strongly in favor of meningitis.

Herpes labialis is usually not present; still its occurrence in meningitis cannot be taken as absolutely indicative of the purulent form.

In the presence of disease capable of producing cerebral symptoms the diagnosis of meningitis should be made with the utmost reserve.

Inoculation experiments afford the surest means of differentiation.—WENTWORTH.

PROGNOSIS.—Recovery is rarely seen; a general miliary tuberculosis usually coexists. Recovery warrants a suspicion that cerebro-spinal meningitis was the affection in question, unless positive tests were made, as was the case in an instance of recovery at the Friedrichshain Hospital two years ago.

TREATMENT.—

In an adult, shave the head, apply ice cap, and give large doses of potassium iodide, beginning with two drachms daily and gradually increasing. Remove intracranial pressure.

Recovery has followed potassium iodide, 8 gm., gradually increased up to 40 gm. daily, until about thirty ounces in all had been taken.—JANSSEN.

℞ Moschi	gr. iij.
Camphoræ	gr. xv.
Chloral.....	gr. viiss.
Vitelli ovi.....	No. i.
Aq. destill	℥ iv.
M. S. Wash out the rectum with simple enema and inject two ounces.	
—SIMON.	

Poultices over the whole body up to the neck. Antituberculous serum. Trepanation and drainage.

Meralgia Paræsthetica.

A syndrome with pain, paræsthesia, and disturbance of sensation over the outer surface of the thigh.

DIAGNOSIS.—There may be only cold, numbness, and tingling or decided burning and cutting pain over the region supplied by the external cutaneous nerve. Anæsthesia may exist.

PROGNOSIS.—Doubtful. Apt to become chronic. It often follows alcoholism and infectious processes.

TREATMENT.—General. Dry-brush friction. This may be at times very painful.

Mongolism.

A congenital state with brachycephalism, oblique palpebral fissure, large tongue, short thumb and little finger, the latter being curved.

DIFFERENTIATION from cretinism by infant being brighter and showing more active movements; antero-posterior flattening of skull; better condition of skin, characteristic fingers, and not being benefited by thyroid medication.

Morphinism.

The use of opium as a habit is similar in many respects to the condition of alcoholism. The physician is unfortunately to blame in many instances for permitting continued employment of this most useful of remedial agents beyond the necessities of the case.

DIAGNOSIS.—When the craving for the drug is not acknowledged or truthful statements concerning the quantities taken are not obtainable, we may suspect the condition from the restlessness, anxiety, mental depression, impaired digestion, decreased nutrition, sallowness of complexion, irregular sleep,

and the sudden change to a condition of well-being otherwise inexplicable.

The "small pupil," a usual symptom, is sometimes unaccountably absent in the *habitué*, and indeed the pupils may be widely dilated much of the time.

There are two tests of morphinism—one by urine analysis, the other by enforced abstinence. The urine test consists in rendering the specimen alkaline by the addition of bicarbonate of sodium; to this add a certain proportion of chloroform or amyl alcohol, shake thoroughly, let settle, draw off, add a small proportion of hydriodic acid. If morphine is present there will be a violet tinge to the urine.

Regarding enforced abstinence from morphine, no morphinist could stand it for forty-eight hours without showing reflex symptoms.—J. E. MATTHEW.

PROGNOSIS.—The morphine habit becomes practically incurable after five years. The difficulty of controlling the patient makes the outcome most uncertain. The habit is compatible with long life, but the morphine withdrawal time is very variable in acute disease.

TREATMENT.—Withdrawal of the habit is a very difficult task, almost insuperable.

Withdrawal can be accomplished by the use of the following method. It is a very difficult task, but it can be accomplished. It is a very difficult task, but it can be accomplished. It is a very difficult task, but it can be accomplished.

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℞ Cocainæ muriatis.....	0.5
Acidi salicylici.....	0.1
Aquæ destillatæ.....	100

M. S. For a daily dose, which should never be exceeded, and the drug should never be used hypodermatically.

Cocaine is useful only when the patient becomes violent, four to forty-eight hours after the last dose of morphine, and never continued longer than five or six days.

In case of collapse, morphine must be resorted to again.

Caution.—Patients with heart disease should not be subjected to complete withdrawal.—OBERSTEINER.

Gradual reduction, each withdrawal being effected under hypnotic suggestion, is the only rational and safe method of cure.—BERILLON.

Caution.—Watch for relapses into the habit after the influence of the hypnotism is withdrawn.

Sudden withdrawal of the drug results in hyperacid dyspepsia. Neutralize the acid by washing out the stomach with water containing 0.35 per cent. of bicarbonate of sodium, while the morphine is being gradually decreased.—ERLENMEYER.

Reduce the morphine by halving the dose each day, not giving it if not asked for. Push bromide administration but not beyond the stage of marked torpor, stopping it altogether if patient has ceased to ask for morphine.

℞ Sodii bromidi.....	ʒ iij.
Aquæ.....	ʒ iij.

M. S. Tablespoonful every four hours.

—NEIL MACLEOD.

(See also "Poisoning by Morphine.")

Myelitis.

Inflammation of the spinal cord is spoken of as transverse when it includes the entire thickness through a short segment; diffuse when a large section is involved; disseminated when there are scattered areas; focal when there is but a single lim-

ited area; and poliomyelitis when the gray matter is wholly or partially involved. These conditions may be acute or chronic. Symptoms vary within wide limits, according to the portion and extent of the cord involved. There are, however, symptoms more or less common to all, such as motor paralysis or irritation, disturbances of sensibility, of the reflexes, of the sphincters, and trophic changes.

ACUTE TRANSVERSE MYELITIS.

Paralytic manifestations, including weariness in the limbs, feeling of dragging weight, perhaps attended with numbness or tingling, are among the early signs.

Paraplegia may develop gradually or may seem to come on suddenly after evidences of paresis have preceded it by some days. A sensation as though a tight girdle were about the trunk is indicative of the level of the lesion. Paralysis of the sphincters is an early and frequent sign. Convulsions may usher in the symptoms, especially in children.

DIAGNOSIS.—If a sponge wrung out in very hot water be passed down the back it produces a sensation of pain when a point just above the level of the girdle sensation is reached.

During the progress of the disease fever is present, rarely going over 101° F., though at the onset of a severe case the temperature may be as high as 107° or 108° F.—TYSON.

DIFFERENTIATION.—Poliomyelitis shows an absence of pain and of muscular spasms, as well as of trophic changes.

In peripheral neuritis there is marked tenderness in the course of the nerve trunks, paralytic and trophic changes develop less rapidly, and symptoms of local pain are prolonged and more severe; while in myelitis they are lacking even in the subacute form.

PROGNOSIS.—Death may occur early from involvement of the respiratory nerves, or subsequently from paralysis of the respiratory centre in the medulla.

When recovery takes place convalescence is slow.

DISSEMINATED MYELITIS.

An inflammation which continues to extend after the first few days is certainly disseminated, and most subacute cases are of this variety. Constitutional symptoms may be absent.—GOWERS.

DIFFUSE MYELITIS.

This is a chronic form, presenting the same symptoms as the acute but of slower development. There are impaired motion and sensation. Pain and sensation of weight in the legs cause slow dragging progression, the feet not being raised sufficiently from the surface. The girdle sensation is more pronounced, the reflexes are greatly exaggerated, and the expulsive power of both bladder and rectum is diminished.

DIFFERENTIATION.—The loss of co-ordination may suggest ataxia.

From hysterical paraplegia, by the presence of incontinence of urine rather than retention, which accompanies the latter.

Anæsthesia in hysteria follows less the distribution of the motor paralyzes.

From compression of the cord it is distinguished by absence of any obvious cause of pressure, such as injury or caries of the vertebræ, and by absence of root pains, which would indicate that the process had begun outside the cord.

From tumor of the cord it is distinguished by the comparative absence of root pains. Either may involve one-half of the cord more than the opposite half, but myelitis is more likely than tumor to present absolutely unilateral symptoms.

From primary lateral sclerosis (spastic paraplegia) it is distinguished by the existence of both motor and sensory impairment, whereas in spastic paraplegia the symptoms are entirely motor.

From progressive muscular atrophy it is distinguished by the fact that atrophies of myelitis are irregularly distributed, while those of progressive muscular atrophy are symmetrical. Moreover, in the former there are other cord symptoms and sensory disturbances.

Pachymeningitis is distinguished principally by greater pain and by a more pronounced and extensive anæsthesia. Gowers says that if there are similar symptoms in both arms and legs, myelitis is far more probable than pachymeningitis, since the chronic inflammation of the membranes is less extensive than that of the cord.—MUSSEY."

TREATMENT.—Counter-irritation to the spinal columns by means of fly blisters, actual cautery, icebags.

To relieve the pains:

℞ Potassii bromidi..... gr. xx.-xxx
Repeat p.r.n.

℞ Antipyrin gr. xv.
Repeat p.r.n.

Or—

℞ Extr. opii gr. xij.
Ft. pil. No. xii. S. One three times daily or oftener.

Electricity by continuous or interrupted current.

In chronic myelitis, prophylaxis requires those of neuro-pathic tendency to secure abundant sleep and to avoid excesses of mental and bodily work, violent emotion, and undue excitement.

In the acute attack, cups to the back.

When lues is suspected:

℞ Potassii iodidi,
Sodii iodidi.....℥ ʒ ss.
Aquæ destil..... ʒ ij.

M. S. Gtt. v.-x. in water, gradually increased by drop doses until an effect is produced or the stomach rebels.

At the same time give:

R̄ Hydrarg. chloridi corrosivi,
Sodii chloridi.....℥℥ 2
Aquæ destillat 100

M. S. Filter. ʒ v.-x. by intramuscular injection three times each week,
to be gradually increased.

Bath at 85° to 95° F. of ten minutes' duration every second day, or salt baths or natural thermal baths as at the Hot Springs of Virginia, Mt. Clemens, or Arkansas.

Myocarditis.

The symptoms here, as a rule, are so obscured by implication of the endocardium and pericardium that the diagnosis becomes most difficult. Muffling of the heart sounds is one of the most important symptoms upon which the diagnosis of acute diffuse myocarditis is to be based. There is diminished impulse, and signs of dilatation are present. Tachycardia persisting for one or more days, especially in the course of typhoid fever, should cause this condition to be suspected.

DIAGNOSIS.—The symptoms, in a general way, are those of dilatation of the heart, with absence of valvular sounds. persistent slowness of pulse, with occasional attacks of palpitation or of angina.

Chronic sclerosing myocarditis, usually secondary to sclerotic changes in the vessels and habitually due to syphilis, gives symptoms of indefinite nature, but which may be said to include precordial pain on slight exertion, with arrhythmia and shortness of breath after exercise. The rarer acute form comes on suddenly in the course of other disease and has an irregularly rapid, feeble, compressible pulse.

PROGNOSIS often depends upon the seriousness of the affection of which myocarditis is a complication.

Aneurism of the heart may result from the sclerosing form, or sudden death may occur from some unusual exertion or from paralysis.

Chronic myocarditis may exist as a progressive affection extending over a number of years, and without presenting symptoms of alarming nature.

TREATMENT.—In acute diffuse myocarditis, absolute rest. Ice bag to the chest is grateful and beneficial.

If much nervous agitation :

℞ Elix. ammon. valerian ℥ ij.

℞. Dessertspoonful repeated as required.

Or—

℞ Sodii bromidi,

Potassii bromidi ℥ 3 i.

Aquæ ℥ ij.

℞. S. Teaspoonful repeated according to the effect.

In evidence of heart failure :

℞ Tinct. digitalis ℥ viij.

Tinct. strophanthi ℥ vi.

Dose. Repeat every three hours.

Or—

℞ Sparteinæ sulph gr. ½

Caffeinæ gr. ij.

For one pill or tablet.

℞ Strychninæ gr. ⅙

Spir. frumenti ℥ i.

Every two to four hours.

Or—

℞ Spir. ammon. aromatic. 3 ss.-i.

Or—

℞ Liq. ammon. acetatis 3 ij.-ijj

—PATTON.

Caution.—At times the heart will not respond to cardiac onics and it becomes dangerous to increase the dose unduly.

For after-treatment :

℞ Potassii iodidi gr. xvi.

Aquæ ℥ ij.

℞. S. Teaspoonful in water three times a day.

Or—

℞ Strychninæ sulphatis gr. ʒi
For one tablet. S. Three such daily.

In interstitial myocarditis of specific origin with dyspnoea, pain on motion, and arrhythmia:

℞ Hydrarg. chloridi corrosivi gr. i.
Sodii iodidi,
Potassii iodidi āā ʒi.
Tinct. nuc. vomicæ ʒi.
Tinct. cinchon. comp q.s. ad ʒiv.
M. S. Teaspoonful t.i.d. in water.

Myositis.

The most important inflammatory affection involving the muscles is universal myositis, in which groups of muscles become hard, tender, and subsequently atrophic.

DIAGNOSIS.—It shows itself first in the lower extremities and gradually extends over the entire body, accompanied by œdema of the skin overlying the muscles involved. There are functional disturbances, pain on motion, and a more or less extensive erythematous eruption of irregular distribution, at times followed by pigmentation. In the rare myositis ossificans there is deposit of bone replacing muscle tissue. Rheumatic myositis is considered elsewhere.

DIFFERENTIATION.—Trichinosis is the disease most likely to come into question, and it can be excluded most readily by excision of a portion of the tender, hardened muscular tissue, in which the trichina spiralis will be found absent.

In idiopathic or acute progressive muscular atrophy there is hereditary predisposition, as in the juvenile form of Erb.

PROGNOSIS.—The affection lasts for a few months or may persist for several years.

In the form showing deposit of bone in the muscle, ankylosis and rigidity are prominent symptoms, and death may result from inability to masticate.

TREATMENT is supporting, stimulating, and otherwise symptomatic.

In the ossifying variety the various animal extracts might be tried.—LOCKWOOD.

In blennorrhagic myositis moist heat should be applied, by enveloping the limb in hot boric-acid solution covered with impermeable tissue. After the acute period :

R Guaiacol.,

Ol. amygd. dulc..... p.æ.

M. S. Apply to limb and cover with cotton.

—BRAQUEHAYE AND SERVEL.

Myxodermia.

This designation has been applied by Dr. H. de Brun to an affection of unknown nature resembling typhoid, characterized by rapid onset with high fever (39° C.), oscillating for ten days between 39° and 40° C. and then falling to subnormal for a period of about eight days. Typhoidal phenomena, with great agitation and at night with delirium of violent character, develop early. There is trismus, and stiffness of the neck makes it impossible to turn the head. The skin becomes like soft wax, shows subcutaneous hemorrhage, large and painful ecchymoses distinguished from those of scorbutus and other affections by a surrounding white zone. There is no meteorism and there are no rosy spots. Duration, three to four weeks. Prognosis grave.

Myxœdema.

Mental sluggishness, gelatinous infiltration of the connective tissue, and atrophy of the thyroid gland form the tripod upon which a diagnosis of this condition stands. The face, neck, and hands have a bloated appearance without pitting on pressure. The face appears broadened, the lips are thickened, and the tongue is greatly enlarged. The patient's appearance and actions indicate a sluggish or stupid state. The memory is deficient and the speech slow.

DIAGNOSIS.—The puffiness of the hands, face, and occasionally the neck, with inability to flex the fingers naturally, the dull and apathetic condition of the patient, the presence of transitory albuminuria and perhaps of casts, and the diminished size of the thyroid, together with a history of congenital origin of the affection, or of subsequent gradual development, make a rather characteristic clinical picture.

It often appears first after unusual and prolonged exertion. There may be pronounced thirst.

DIFFERENTIATION.—From dropsy, by the absence of pitting. From nephritis, by this deceptive appearance of dropsy and by the other signs being of temporary duration. Some instances may strongly suggest Bright's disease. From sporadic cretinism, by the absence of dwarfed body. From cachexia strumipriva, by the fact that the thyroid has not been removed. From chronic dementia, by the absence of more pronounced indications of insanity.

PROGNOSIS.—The disease is at present amenable to treatment and capable of cure, but spontaneous cure is scarcely to be looked for. Early or late reappearance of symptoms of cachexia after cessation of treatment is to be expected.

TREATMENT.—Thyroid feeding offers the best therapeutic measure. It is almost specific. Iodothyrim has given brilliant results in the practice of Ewald, Meltzer, and many others.

After apparent cure, continue thyroid in small doses for a long period, possibly for life.

Caution.—Symptoms of thyroidism, apt to develop after about two weeks of treatment, are shown by cutaneous irritation, nervousness and restlessness, rapid heart action, shortness of breath, and perhaps delirium. When long continued, thyroid feeding may produce symptoms like those of Basedow's disease.

Glycerin extract of thyroid, \mathfrak{m} xii. every four days. (Less than the equivalent in weight of a quarter of a single lobe of a sheep's gland).—KINNICUTT.

To preserve the fresh gland, remove the fat and all extraneous matter, make into a pulp, and mix at once with biborate of sodium and powdered wood charcoal.—VIGIER

Begin thyroid treatment with a powder or tablet corresponding to two grains of the fresh gland. Gradual daily increase until a dose of six or eight grains is reached, then no increase for several days, and so on. Fifteen grains a day should be final maximum.

Or, a dose of ten to twelve grains once or twice a week for three or four weeks. Then discontinue treatment for some weeks. Then three grains three times a day for two weeks and go back to once-a-week doses.—MELTZER.

For headache, phenacetin; for general pains, salicylate of sodium; to relieve the urticaria which may be occasioned, a few small doses of pilocarpine.

R Thyroid extract..... gr. iij
Three times daily. —OSLER.

R Iodothyrim ʒ ʒo
S. Three or four times daily. —MARIÉ AND JOLLY.

Caution.—Iodothyrim has given the best results, but careful watching is necessary.

Go slowly and avoid danger. Death has occurred.—BRIQUET.

Injection of thyroid extract may be of value in "thyroid diabetes" before incurable lesions in vital organs have formed.—DE DOMMICIS."

Nephritis, Acute.

Acute Bright's disease often passes through its early stages, when of mild form, without occasioning marked symptoms. In children the dropsy may be preceded by severe symptoms and convulsions, or the affection may come on insidiously after infectious processes such as scarlatina, influenza, etc.

DIAGNOSIS.—Fever may be an early sign, due to the infec-

tious process responsible for the kidney inflammation or due to the latter itself.

When dropsy has already occurred we have in it the most valuable of guiding symptoms. If dropsy is not present, examination of the urine, perhaps in a routine way, or because of some suspicion cast upon the kidneys, may show the presence of albumin. Chill, fever, vomiting, and backache may be followed in the course of a few days by a puffiness of the lids, swelling about the genitalia or lower extremities. The urine is diminished in amount, at times almost to the point of actual suppression, and often has a "smoky" hue.

DIFFERENTIATION.—Ascites may be due to organic heart disease, cirrhosis, tuberculous peritonitis, cancer or tumor pressing upon important vessels, etc.

If, after scarlatina, during pregnancy, or in malaria, the dropsy be extensive, glomerular or acute exudative nephritis is the variety most likely present, while if little dropsy exists this would point to parenchymatous nephritis. Blood and blood casts in the urine indicate the hemorrhagic form, while an abundance of leucocytes and epithelial cells point to the desquamative variety.

Hemorrhage from the nose or into the middle ear is an early sign of Bright's disease. The so-called spontaneous hemorrhage into the ear ought always to be investigated as to the possibility of an underlying nephritic cause. Here we should use the term *tympanitis albuminurica*, just as we speak of *retinitis albuminurica*.—HAUG.

By examination of the urine in the newly born it will frequently happen that a nephritis is found when the prominent symptoms suggested the diagnosis of encephalitis or meningitis.—JACOBI.

PROGNOSIS has a wide range. Recovery may take place promptly or only after months, or the acute may merge into the chronic form. Prognosis in instances due to infection, as in

scarlatina, diphtheria, etc., is more favorable than in the nephritis of pregnancy. The glomerular form is more serious than the parenchymatous. In young children the mortality is high. Nephritis arising in cholera and other grave infectious diseases is usually of severe type.

TREATMENT.—Cupping over the kidneys, wet cups being used in sthenic cases. There should be no fear to abstract blood freely.—WOOD AND FITZ.*

Relieve the kidneys of extra work. Endeavor by intelligent medication and diet to prevent further damage. Calomel is indispensable to meet the requirement.

Hot-water baths are useful for their diaphoretic action. The best method of applying heat is by the use of an apparatus which will supply hot air under the bed clothes.—SULEY.

Pure water may be given freely; if not drunk in sufficient quantities it can be administered by the rectum.

Milk diet is of value in acute and subacute forms.

In the anuria of scarlatinal nephritis :

℞ Extr. jaborandi fld	15 gm.
Potassii citratis.....	25 “
Aquæ destill.....	75 “

M. S. Teaspoonful every four hours.

STARR.

℞ Tinct. cantharidis.....	℥ ss.
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S. Gtt. xii. in divided doses extending over twenty-four hours.

—DU CAZAL.

Also in the anasarca when the epithelial tissues are involved.
—LANCEREAUX.

Also in acute infectious nephritis of the young.

Dry cupping to dorso-lumbar region, followed by:

℞ Pilocarpine.....	gr. iss
Vaseline.....	℥ iij.

M. S. Rub in each morning.

—PETTIDI.

Nephritis in children, calomel.

Salines as hydragogues. Hot-air baths. Bleeding in high

tension of arteries, water *ad libitum*, or if not taken sufficiently, as enema.—HENRY E. TULEY.

Headache and insomnia :

℞ Sodii bromidi..... gr. xx-xxi
Chloral..... gr. x-xx.
For one dose.

—W. M. ORD.

Strontium lactate, 60–90 gr. daily, is a pure diuretic, and is more valuable than any other remedy in the treatment of acute inflammatory conditions of the kidney.—BROTOVSKI.

℞ Creolin..... ʒvi
Glycerini..... ʒvi.
Aq. aurant. flor..... ʒvi.
Mucil. tragacanth..... ʒvi.
M. S. Teaspoonful three or four times a day.

—F. H. WOODS.

℞ Tinct. digitalis..... ʒss.
Vini scillæ (Fr. Cod.)..... ʒiiss.
Spir. æther. nitrosi..... ʒij.
M. S. Teaspoonful every three or four hours.

—H. B. MILLARD.

For a child of six or eight years :

℞ Tinct. digitalis..... ʒss.
Liq. ammon. acetatis..... ʒiiss.
Spir. æther. nitrosi..... ʒij.
Syr. tolutani..... ʒss.
Aquæ cari..... q.s. ad ʒiiij.
M. S. Teaspoonful every two hours.

—GOODHART AND STARR.

℞ Strontii lactat..... gr. xx.
T.i.d.

—J. C. DA COSTA.

Nephritis, Chronic.

We speak of chronic Bright's disease when the symptoms have persisted for six or more months. Like the acute, it is diagnosed more readily and more often after the development of its resulting secondary manifestations—anæmia, œdema, etc.

DIAGNOSIS.—*In chronic parenchymatous nephritis* we have a disease comparatively frank and open in its manifestations, which, moreover, point unmistakably to the kidney as the source of trouble. There are beside profound anæmia, early and progressive œdema, scanty, high-colored urine of variable specific gravity, rich in albumin and hyaline, granular, and epithelial casts.—C. L. GREENE.

The parenchymatous form is most often seen during the period of adolescence. Dropsy is a regular symptom. General anasarca and dropsy of the serous cavities appear early and are more common in this form.

The specific gravity and the proportion of urea to the ounce of urine slowly and gradually diminish from the beginning of the inflammation; so the specific gravity is an indication of the advancement of the disease.—F. DELAFIELD.

In interstitial nephritis, on the other hand, the morbid process produces few definite clinical signs referable to the kidney. This disease is as insidious and misleading as it is treacherous and deadly.—C. L. GREENE.

Interstitial nephritis develops stealthily, with very early nervous symptoms which may attain suicidal or maniacal proportions. Irritability, worry over trifles, headache, neuralgia, depression, and frequently uræmic symptoms are noted.

Hemiplegia, with or without aphasia, may be the first symptom to call attention to the nephritis.

Albumin is least abundant and least constant in certain special forms of renal disease, of which interstitial nephritis is one.—FRANCIS DELAFIELD.

Epistaxis may be an early sign of interstitial nephritis or of granular kidney. To arrest it inject a five-per-cent solution of gelatin in artificial serum.

Early symptoms in children include progressive wasting, anæmia, dry skin, high arterial tension, polyuria with low

specific gravity. Gastro-intestinal disturbances, morning vomiting, periodic headaches, dyspnoea, and precordial distress should excite suspicion.—GUTHRIE.

Eye symptoms may first direct attention to the kidney. The retina is engorged and the fundus sprinkled with white patches on a red background; blindness comes on suddenly with vomiting, etc.

Retinitis albuminurica, when discovered, almost always means this variety of nephritis.

The typical urine of this condition is a urine increased in quantity, of a specific gravity of about 1.010, containing a diminished quantity of urea, without albumin or casts, or only a trace of albumin and very few casts, except during acute exacerbations.—F. DELAFIELD.

Temporary albuminuria, hyaline casts, and urine of low specific gravity are the signs which are to be looked for.

Albumin is usually to be found when the whole daily quantity of urine passed is examined, and casts can be discovered when albumin is temporarily absent.

A delicate test for albumin when the latter is not found by heat and nitric acid is to add urine to a tube containing trichloroacetic acid in saturated solution or drop a crystal of the acid into urine in a tube. A distinct zone is formed at the point of juncture.—BOYMUND AND RAABE.

This is almost too delicate for general use, though valuable in the hands of an expert clinician.—C. L. GREENE.

If we find retinitis, in conjunction with casts and albumin, and especially if cardio-vascular alterations are present, it is probable that we have the interstitial form before us. The interdependence of heart and kidney usually aids in diagnosis, but, as Edwards points out, it may be the source of clinical confusion, since primary cardiac disease may cause renal congestion or even acute or chronic nephritis.

The interstitial form occurs in advanced life and is usually associated with cardiac hypertrophy and sclerotic changes in the

vascular system. It may cause little or no disturbance during **life**, or may be discovered post mortem. It frequently gives **rise** to headache and vertigo, or the first symptoms may be those **of uræmia**, drowsiness, muscular twitchings, stupor, and coma; **or a comatose condition** with Cheyne-Stokes breathing, aphasia, **and paraplegia** may suddenly develop.

Ammoniacal breath is usually a forewarning of uræmic attacks.—WARREN.

DIFFERENTIATION.—This is difficult when nephritis coexists **with diabetes.** Another difficulty of differentiation is the **co-existence** of pyelitis and nephritis. Differentiation seems **possible** by the application of the Goldberg test. According to the **latter**, true albuminuria exists at the same time with the false, **when more than one part of albumin per thousand**, as shown by **Esbach's test**, is found with 50,000 pus cells in a cubic millimeter of urine.

When the quantity of urine is very large and the specific **gravity** very low, the case may be mistaken for diabetes insipidus.

Dropsy of renal origin results from vascular changes and **transudation** takes places where there is the least resistance, **namely**, in the cellular tissue, especially that of the eyelids, **ankles**, and back of hands. Cardiac dropsy is due to impeded **circulation** or stasis; hence it appears first in the feet and lower **extremities**, where resistance is greatest, because farthest away **from the heart.**

Hepatic dropsy is due to portal obstruction; hence ascites is **the first** to make its appearance. In pyuria the leucocytes are **polynuclear**, while in nephritis of uncomplicated nature few such **forms** are found. In distinguishing between vesical catarrh and **beginning contraction** of the kidney, the specific gravity and the **presence** or absence of retinitis and hypertrophy of the heart **must be taken into consideration.** Wash out the bladder before **collecting urine** for analysis. The persistent hemicrania of **renal inadequacy** must not be mistaken for migraine.

Diffuse nephritis with large white kidney is distinguished

from amyloid degeneration of the kidney by the absence of cause for the existence of the latter condition, and the fact that the urine is of lower specific gravity and freer from sediment, especially from red blood corpuscles. This form occurs after middle life.

Myxœdema should not be mistaken for œdema of kidney origin.

PROGNOSIS in chronic diffuse nephritis is unfavorable for the severe forms. In individual cases it depends largely on the daily percentage of urea and the general severity of the symptoms. Even when some impairment of kidney function exists recovery may take place, or the progress of the disease may be arrested.

While the disease is serious and often fatal, it is not incompatible with a long and comparatively comfortable life.

Prophylaxis calls for frequent examination of the urine in those of apparent health; for early investigation of the sediment by the microscope in suspected instances; and the adoption of all necessary measures to prevent a mild and beginning affection when discovered from becoming one of most serious import.

Remove all strain from the heart, kidneys, and blood-vessels. The life should be quiet, with avoidance of dampness, chill, fatigue, worry. Gentle exercise and open-air life in a genial climate will do more than any specific drug medication.

Regular life, eating in moderation, proper exercise, habitual bathing, and especially Turkish baths.—H. C. WOOD.

TREATMENT.—Attention to diet and mode of life are important. Interdict alcohol and tobacco, limit the carbohydrates, and encourage the ingestion of fats.

To neutralize the toxic products contained in the urine :

R Antipyrin 3 i.
Ft. cht. No. xx. S. One or two four times daily.

—MODINOS.

To stimulate the kidneys :

R Diuretin 3 ij.
Ft. cht. No. vii. S. One every four hours.

Or—

℞ Hydrarg. chl. mitis..... gr. xvij.
Sacchari lactis..... q.s.

M. et ft. cht. No. vi. S. One three times daily, while the bowels are kept closed by means of opium.

—J. M. PATTON.

Or, caffeine sodio-benzoate, in gr. iii. doses, three or four times daily, may also be employed hypodermatically.

℞ Ergotini..... ʒ
Acidi gallici 8
Ext. et pulv. krameriæ..... q.s.
Ft. pil. No. xx. S. Four pills daily.

In the different forms of Bright's disease, strontium lactate, gr. i. to viii. daily, diminishes the albumin, increases diuresis, and ameliorates the symptoms without unpleasant effect.—
PICK.

Diuretic wine :

℞ Junip. contus..... 3 x.
Pulv. digitalis..... 3 ij.
Pulv. scillæ 3 i.
Vini Xerici O i.

After macerating for four days add :

Potassii acetatis..... 3 iiij.
Express and filter. S. For an adult a tablespoonful three times daily.

—TROUSSEAU.

Diuretic mixtures :

℞ Spir. ætheris nitrosi..... ʒ iss.
Tinct. ferri chloridi,
Tinct. nucis vomicæ..... .āā 3 i.
Syrupi..... ʒ iiij.

M. S. Two teaspoonfuls.

—W. H. THOMPSON.

℞ Tinct. grindeliæ robustæ..... ʒ i.
Tinct. convallariæ majalis 3 iiss.
Tinct. scillæ..... 3 i½.

M. S. Fifteen drops thrice daily.

—HUCHARD.

In children :

℞ Caffeinæ pur..... 0.10 gm.
 Pulv. digitalis..... 0.20 "
 Sacch..... q.s.
 M. ft. pulv. No. xii., of which five are given daily to a child of ten years.
 —SIEGERT.

Caution.—Salol should not be administered for any purpose to nephritic subjects.—TYSON.

For ascites :

℞ Potassii bitartratis..... $\frac{3}{4}$ iss.
 Potassii sulphatis..... $\frac{3}{4}$ ss.
 Pulveris scillæ..... $\frac{3}{4}$ ij.
 Antimonii et potassii tartratis..... gr. i.
 M. S. One teaspoonful every four hours until active purgation and diuresis follow.
 —EBERLE.

Caution.—The dose of squills as here given is double the maximum as usually prescribed.

℞ Theobromine..... 10 gm.
 Make wafers No. xx. S. One every two hours or eight in all the first day, six the second and third, and four the last day of the course.

Diuresis may continue for twenty-four hours.

For dropsy of renal or cardiac disease :

℞ Hydrargyri chloridi mitis,
 Pulv. digitalis fol.,
 Pulv. scillæ radicis..... $\frac{3}{4}$ gr. i.
 S. For one pill, to be given every four hours, until œdema disappears or the bowels act too freely.
 —H. P. LOOMIS.

To diminish the large quantity of urine in contracted kidney :

℞ Sodii bromidi..... $\frac{3}{4}$ iv.
 Tinct. nucis vomicæ..... $\frac{3}{4}$ ij.
 Glycerini..... $\frac{3}{4}$ ij.
 Aquæ..... $\frac{3}{4}$ vi.
 M. S. Tablespoonful three times daily.

Caution.—Stop the medicine before the quantity of urine gets below sixty to eighty ounces.—F. DELAFIELD.

℞ Tinct. ferri chloridi.....	℥ ss
Acidi acetici.....	℥ ss
Misce et adde :	
Liq. ammonii acetatis.....	℥ ss
Camphor.....	℥ ij
M. S. 3 i. thrice daily.	

—J. M. DA COSTA.

In children, with high arterial tension, nitrites and nitrates associated with diaphoretics and active purgation.—GUTHRIE.

In respiratory difficulties with high-tension pulse, nitroglycerin, gr. $\frac{1}{100}$ – $\frac{3}{100}$, t.i.d.

Or, if this fail in extreme cases and in insomnia, chloral, gr. xx., by mouth or injected beneath the skin, or combined with ammonium bromide, gr. xxx.

Caution.—Opium is not safe, because it diminishes the excretory activity of the kidneys.—W. M. ORD.

In the earlier stages :

℞ Potassii nitratis.....	3 iv.
Extracti galii fluidi.....	℥ iiss.
Extracti uvæ ursi fluidi.....	℥ iiss.
Extracti ergotæ fluidi.....	℥ i.

M. S. Give 3 i. in half a wineglassful of sweetened water, three or four times a day.

—DAVIS.¹⁰

℞ Ferri sulphatis.....	gr. ii j.
Magnesii sulphatis.....	gr. xl.
Acidi sulphurici diluti.....	℥ ii j.
Aquæ menthæ piperitæ.....	℥ i.

M. S. To be taken three times daily.

Or—

℞ Tinct. digitalis.....	℥ x.
Potassii iodidi.....	gr. v.
Spiritus ammoniæ aromatici.....	℥ xv.
Aquæ.....	q.s. ad ℥ i.

M. S. Dose : repeat three times daily.

Occasionally at bedtime :

℞ Euonymin.....	gr. i.
Ext. aloes.....	gr. i j.
Ext. belladonnæ.....	gr. ½

M. S. Dose.

—ROBERT SAUNDY.

℞ Cantharidin gtt. vi.-xij.
For daily dose.

—LANCEREAUX.

Caution.—The use of this drug is dangerous.—SÉE.

Idiopathic chronic parenchymatous :

℞ Auri et sodii chloridi 1
Aquæ 60
S. Gtt. x.-xii. six times daily to children according to age.

℞ Nitroglycerin gr. ʒss
Tinct. digitalis ʒ ij.
Tinct. strophanthi ʒ ij.
Tinct. belladonnæ ʒ ss.

To be used in cases marked by high arterial tension.

—DA COSTA.

In threatened heart failure, oxygen inhalations.—REV.
NOLDS.

*For the constipation, weak action of heart, and general
anæmic state :*

℞ Fel. bovis inspissati et purificati ʒ ij.
Ext. pancreatin ʒ i.
Hæmogallol. ʒ ij.
Caffeinæ hydrochlor. ʒ i.
Ext. colocynthidis co. gr. xx.
Euonymi gr. x.
Ext. aloes. gr. vi.
Ext. calumbo ʒ ss.

M. et ft. caps. No. xl. S. Two before each meal.

To aid digestion :

℞ Strychninæ sulphatis gr. ss.
Acidi phosphorici diluti ʒ vi.
Aquæ q.s. ad ʒ iij.

M. S. Teaspoonful in water after meals.

—W. H. PORTER.

In Infective Nephritis.—Hot-air bath; electuary of bitartrate of potassium and honey.

℞ Pulv. digitalis,
Pulv. scillæ,
Caffeinæ citratis ʒss gr. i.

M. ft. pil. One such thrice daily.

—SAUNDBY.

In chronic diffuse nephritis, with exudation, the patients void urine containing less than the normal quantity of urea; hence they need to pass more than the normal quantity of urine; about sixty ounces a day is sufficient. Increase the amount of fluids imbibed, but do not give too much mineral water.—F. DELAFIELD.

In suppression, hot packs. Digitalin, gr. $\frac{1}{40}$, four times daily.—DELAFIELD.

Pilocarpine, gr. $\frac{1}{2} - \frac{1}{8}$.

Caution.—Avoid in cardiac and respiratory difficulties.

In depression, whiskey and stimulants, oxygen inhalations.

In convalescence anæmia is always present, so that iron furnishes the routine treatment.—TORREY.

R. Liquor ferri et ammonii acetatis ʒ ss.
S. Three times a day.

In Uræmia.—Attacks of uræmic coma are usually associated with vasoconstriction; arterial dilators are indicated. Calomel, gr. xx. at dose.

There is no more effectual way of stimulating kidney secretion in uræmia than by intravenous saline infusions. (See page 409.)

Purgatives are to be prescribed without hesitation each time a subject of Bright's complains of cephalalgia, heaviness in the head, and shows intellectual hebetude or dyspnœa, all of which are to be looked upon as precursors of uræmia.

R. Acidi benzoici ʒ v.
Ft. cht. No. v. S. One in a half-tumbler of water every three hours.

—DA COSTA.

For uræmic attacks, chloral, gr. x. per os or gr. xx. per rectum, every three or four hours. Or nitroglycerin, gr. $\frac{1}{100}$ to $\frac{1}{50}$, repeated as indicated by pulse tension. Hot packs, except in cases with cerebral symptoms and feeble pulse.—DELAFIELD.

Pilocarpine muriate, gr. $\frac{1}{10}$. Croton oil, elaterium.

Or, an ointment of pilocarpine nitrate to secure local diaphoresis.—MOLLIÈRE.

Caution.—It should not be used in Bright's disease, and especially not in old people, it being a decided cardiac depressant.—C. J. PROBEN.

Uræmic Convulsions.—Remove ten or fifteen ounces of blood, to be repeated if necessary.

Inhalations of chloroform until the convulsions are controlled.

℞ Musk..... gr. viiss.
 Chloral..... gr. xlv.
 Yolk of one egg.
 Distilled water..... $\frac{3}{4}$ v.
 M. S. Administer by enema.

℞ Strontium bromide..... $\frac{3}{4}$ i.
 Syrup of orange flower..... $\frac{3}{4}$ iss.
 Distilled water..... $\frac{3}{4}$ iij.
 M. S. Administer hourly a tablespoonful.

℞ Tinct. veratri viridis..... $\frac{3}{4}$ i.
 S. Gtt. xv.—gtt. xx. hypodermatically and repeat half-hourly a dose of ten or twelve drops as conditions indicate.

—NORWOOD.

It is not contraindicated in any form of renal disease. It is eliminated by diaphoresis, diuresis, enuresis, and catharsis, and thus has a great advantage over morphine.—A. F. MYERS.

Restraint of thighs and legs to be wrapped in cotton. Absolute milk diet.—MALBEC.

Bloodletting except in feeble subjects.—NILSON.

Hot baths at 40° C., continued for an hour and followed by means to keep up perspiration for several hours.

Caution.—Avoid in advanced cases. They may cause weakness and congestion of lungs.—TALAMON.

When hot packs produce no reaction of the skin, employ cathartics. Drastic purgatives. Morphine only in extreme cases. *In œdema of lungs* give atropine and strychnine.

Mode of Giving a Vapor Bath.—A woollen blanket is placed on the bed under the patient, who keeps on his night robe. Under each foot and at each side of the body a stone bottle containing boiling water is placed, each bottle having previously been wrapped in a very wet towel and the whole covered with flannel. The woollen blanket is then wrapped around the patient, and another blanket and a quilt are put over him.

At the end of fifteen minutes the patient is in a profuse perspiration. In order to favor sweating, one or two cupfuls of some hot infusion should be taken. After the patient has remained a sufficient length of time in the bath, the woollen blanket under him and the bottles are carefully withdrawn without exposing him, and he is then wiped dry under the other blanket and the quilt. At the end of twenty or thirty minutes the patient may have a change of linen.

Headache.—Potassium sulphate, gr. x.—xx.—J. B. WHITE.

Diet is all important.

Control the production of effete material having toxic effect upon the economy by careful supervision of food stuffs. Give fish, fruit, fowl, and exclude butchers' meat. The diet should be light, easy of digestion, and limited in quantity.—HOOD.

It is agreed that the most rational diet is a mixed one. The estimate commonly given is that meat should constitute one-fourth and vegetable food three-fourths of the dietary.—ELLIOT.

Absolute milk diet is not only unnecessary and extremely distasteful but positively harmful.—ROBERT SAUNDBY.

Milk is the typical food for this condition.

As an habitual drink :

℞ Sodium iodide	gr. xv.
Sodium phosphate.....	gr. xxx.
Sodium chloride	gr. xc.
Drinking-water.....	℥ xxxvi.

This should be drunk daily, either alone or mixed with milk.
—SEMMOLA.

Caution.—Meat diet favors cerebral hemorrhage from increased vascular tension.

After degenerative changes have occurred an exclusive milk diet is positively injurious. In the acute stages it must form the basis of treatment.—RALFE.

The best diuretic is milk, and this too is the best food. To avoid intolerance in protracted cases we may permit the addition of green vegetables, farinaceous foods, and fats, but we must forbid absolutely the use of dark meats, game, condiments, spices, alcohol, and beer.—LYONNAIS.

A vegetable and fish diet is advised: 1. When the quantity of urine passed exceeds eight hundred grams in the twenty-four hours. 2. When the urea and the density are somewhat augmented, or, at least, normal. 3. When there is increase of phosphates and phosphoric acid. 4. When the quantity of albumin is not exaggerated or subject to great variation.—FERRAN.

Nephrolithiasis.

When sand-grain-sized renal calculi exist their presence is announced by transient pains in the loins.

When a calculus is large enough to cause irritation in the kidney pelvis or of the ureter in passing through to the bladder we have the symptom of renal colic.

This is a sign of value as indicating that the stone is movable, and probably making efforts to escape.

DIAGNOSIS.—The discovery of small sand-like particles or small fragments of stone or a small stone intact in the urine is the only absolute diagnostic sign. The urine is at times bloody and may contain pus.

The colicky pain when it occurs is very severe and extends from the loin upon one side around to the front of the abdomen toward the bladder, down the thigh, or into the testicle, perhaps inducing vomiting. In the early stages an uneasy feeling

rather than a pain is noticed in one loin, below the ribs, or severe pain may come at first and be greatly increased by every movement. Stabbing pain is at times induced by sudden deep finger pressure in the loin toward the kidney.

DIFFERENTIATION.—*Intercostal neuralgia* may at times be simulated by the pain, but the urine would show no change and vomiting would not occur.

Biliary colic is suggested only when the right kidney is in question.

Intestinal colic does not remain so persistently one-sided.

Nephralgia giving neuralgic pain of a recurrent paroxysmal nature has been mistaken for calculous disease.

Lumbago is rarely so one-sided. Exclude malignant disease, tuberculosis, chronic nephritis, painful movable kidney, urine charged with uric acid and urates.

Gastralgia and appendicitis are also to be excluded.

PROGNOSIS.—Large stones and those composed of oxalate of lime are not to be disintegrated, and require operation. In uric acid calculi medicinal treatment may succeed.

TREATMENT.—By careful attention to diet and digestion in subjects who pass crystals of any kind in the urine, stone may be prevented from forming. In oxaluria cut off sugars, sweet wines. In phosphaturia order rest, avoidance of jolting exercises, bicycling, etc.

The most reliable investigations indicate that fat, sugar, and starchy matters have not the slightest direct influence on the production and excretion of uric acid. The only point which is really clear is that the excretion of uric acid is diminished by lessening the albuminoid ingredients of the food, and that it is heightened by increasing these ingredients.—ROBERTS.

In calculi fixed in the pelvis, dilute nitric acid, ℥ x. in water, repeated p.r.n. Careful dieting, excluding butchers' meat, and long courses of alkalies.—HEATON.

To relieve the pain of nephritic colic as well as the cystitis, ammonii valerianatis, gr. iiss., in capsule every half-hour until five or six doses have been taken.—BLANC.

Hypodermic injection of morphine, chloral by the rectum, hot bath, suppository of belladonna or opium, alone or combined.

Hot poultices containing laudanum to the lumbar region or abdominal wall.

In slight attacks, ammonium valerianate, gr. i.-viii., in pills or by enema.

For insomnia :

℞ Chloral gr. xlv.
 Sydenham's landanum gtt. x.
 Decoction of marshmallow root ʒ v.
 To be given as a tepid enema.

If the pains become too severe, chloroform administered by the physician himself.—GAUCHER AND GALLOIS.

℞ Lycetol gr. xv.
 Bicarb. of sodium gr. viij.
 M. ft. chart. No. i. S. To be taken morning and evening, dissolved in a glass of mineral water.

—WETZACK.

Or—

℞ Lithium iodide gr. xv.
 Distilled water 3 iiss.
 M. A Pravaz syringe-ful to be injected once a day.

Or—

℞ Lithium iodide ʒ ij.
 Mucilage of tragacanth sufficiency.
 M. Divide into fifty pills. One to be taken three times a day.

—RUHEMANN.

As a suppository :

℞ Ext. belladonnæ gr. ʒ
 Ext. opii gr. ʒ
 Olei theobromæ gr. xlv
 M.

To relieve pain, overcome obstruction, and cause expulsion of stone, tinct. belladonnæ, gtt. xxx.-xl. Repeat every hour

or every two hours until drug is pushed to toxic effect (dilatation of pupils, dryness of throat, delirium).—MURRAY.

Neuralgia.

Pain in the various nerve trunks of the body occasions a variety of secondary symptoms which cannot here be entered into. The term should be restricted to nerve pains which are functional and without accompanying organic lesion in the nerve centres or in other organs upon which the pain depends. Niemeyer's definition may well be applied, that neuralgia is the cry of the nerve for better blood, since most instances depend upon some exhaustion of nerve tissue often due to anæmia or toxic influences.

DIAGNOSIS.—In a large proportion of the nerve pains, casually spoken of as neuralgia, gout undoubtedly lies at the bottom of the trouble and the painful affection is often one of gouty neuritis. In the absence of gout, when persistent neuralgic pain implicates a limited region, some disease of a nerve centre should be thought of. Thus persistent pains in the limbs usually lead to an investigation, which will exclude or confirm a posterior spinal sclerosis.

The diagnosis of trigeminal neuralgia rests mainly upon the following points:

1. The pain is limited to a definite nerve path, either trunk, branch, or area of distribution, and is usually confined to one side.
2. It is, without any obvious reason, either intermitting or at least distinctly remitting in character.
3. It presents very peculiar characters, and is extraordinarily acute.
4. There are certain spots in the course of the nerve or in the area of its distribution which are very sensitive to pressure.
5. The pain is associated with sensorimotor, vasomotor, and secretory phenomena.

6. The pain is unaccompanied by any inflammatory or local symptoms.—**ERB.**

In phrenic neuralgia there exists a constant painful point in the median line of the sternum, at the level of the fourth or fifth chondrosternal articulation, not to be confounded with the diffuse retrosternal pain of chronic aortic affections.—**JOSSELYN.**

DIFFERENTIATION.—Intercostal neuralgia is distinguished from pleurisy by the pains being sharp, localized, and possibly modifying the chest movements; being increased by pressure over those points corresponding to the surface distribution of the terminal filaments. Neuralgia in another part of the body will aid in diagnosis, while the physical signs of pleurisy are absent.

From pleurodynia it is distinguished by the sensitiveness of the muscles when caught up between the fingers.

Pain in the side, thought to be due to neuralgia, often depends upon caries of a rib or is due to an unsuspected fracture.

Charcot has called attention to hysterical neuralgia, which comes on in the evening, in contradistinction to tic douloureux, which is a matutinal affection. The latter or trifacial neuralgia involving the fifth pair in one or more of its branches is the most common form in which neuralgia occurs. Here infra-orbital and supra-orbital tender points are usually to be made out and the involvement of the first division or the ophthalmic nerve occasions the frequent radiating pain over the anterior half of the head, which is sometimes confounded with catarrh of the frontal sinuses. In the latter, however, the pain is usually more dull in its severity, often bilateral, accompanied by coryza, and terminates coincidentally with a purulent discharge from the nostrils.

Plantar neuralgia giving the following symptoms has been recently described by Jones: "

Pain over metatarso-phalangeal region on standing or walking, only slightly relieved by mechanical contrivances. Pain

on pinching the fourth metatarso-phalangeal. Relief of pain on circumferential pressure around base of toes, assisted still further by repeatedly flexing the toes. Sensation of walking on something hot. Presence generally of flattened arches of the foot.

Besides distinguishing it from neuritis already mentioned, which usually has a symmetrical distribution, the pains changing from one spot to another and being characterized by remissions and intermissions, we must further distinguish the condition from rheumatism.

There is a painful affection of the heel called erythro-melalgia, described by Weir Mitchell, which is too often confounded with the latter. In reflex neuralgias, recently studied by Dana, the pain is referred to regions at a distance from the actual seat of the affection. Thus in ulcer of the stomach, as mentioned elsewhere, the pain may be referred to the region of the spine, especially at the time of perforation; and in treating of renal colic we have pointed out that pain of a neuralgic character may occur in the testicle even as quite an early symptom. The pain of hepatic disease commonly referred to the shoulder or scapular region and of uterine disease to the sacrum, need not be further insisted upon. Generally speaking, the pain of muscular rheumatism is distinguished by its increase upon motion. A malarial origin may often be rightly suspected when periodic recurrent pains show a marked regularity and especially when preceded by slight chills.

There may be, too, a decided periodicity in syphilitic neuralgias, which, however, are likely to be aggravated at night. Appropriate medication will in both instances serve to confirm or negative these suspicions. The neuralgias of tabes, often exceedingly acute, are characterized by the fact that while they occur suddenly they do not remain long localized.

Abdominal neuralgia affecting the mesenteric or solar plexus with agonizing paroxysms is often distinguished from gastralgia

by the absence of gastric symptoms and the greater faintness and prostration attending the former.

So-called "neuralgia" confined to one side of the head and attended with inflammatory eye symptoms is often the result of glaucoma or iritis.

TREATMENT.—

℞ Tinct. aconiti,
Tinct. colchici seminis,
Tinct. cimicifugæ,
Tinct. belladonnæ.....℥ 3 i.
M. S. Six drops every hour until relieved.

—METCALF.

℞ Ext. hyoscyami,
Ext. conii℥ gr. xl.
Ext. ignatiæ,
Ext. opii℥ gr. xxx.
Ext. aconiti..... gr. xx.
Ext. cannabis ind..... gr. xv.
Ext. stramonii..... gr. xij.
Ext. belladonnæ gr. x.
M. Divide into sixty pills.

—BROWN-SÉQUARD.

℞ Quininae sulphatis 3 ij.
Morphinae sulphatis..... gr. iiij.
Strychninae..... gr. ij.
Acidi arsenosi..... gr. iiij.
Ext. aconiti gr. x.
M. Divide into sixty pills.

—GROSS.

℞ Potassii iodidi..... gr. xxx.
Tinct. opii ℥ xxx.
Ext. gelsemii fl..... ℥ xlv.
Ext. cimicifugæ fl..... ℥ lxxv.
Syr. sarsaparillæ comp..... 3 vi.
Aquæ q.s. ad 5 ij.

Dissolve and mix. Dose: a tablespoonful every four hours, in muscular rheumatism and neuralgia affecting the chest.

—S. S. BURT.

℞ Benzacetin (aceto-amido-methyl salicylate)..... 85.8 parts
Caffeine..... 8.5 "
Citric acid..... 5.7 "

In doses of fifteen to thirty grains of the combination, and repeated in one hour if relief is not obtained.

The pain is said generally to be alleviated in less than three
rs, and does not return for several days.

In intractable neuralgias :

℞ Croton chloralis 3 i.
Glycerini,
Syr. aurantii āā ʒ i.
M. S. 3 i. as required.

—E. P. HURD.

In hemicrania :

℞ Menthol 3 i.
Alcohol,
Glycerin,
Syrup. āā ʒ i.
M. S. 3 i. in warm water as required.

—McLAURY.

*As an alterative to diseased nerves, in chronic neuralgic
daches, etc. :*

℞ Zinci phosphidi gr. ʒ
Ext. cannabis indicæ gr. ʒ
Ext. nucis vomicæ gr. ʒ
Sodii arsenatis. gr. ʒ
Quininæ sulphatis gr. ʒ
Ext. aconiti rad. gr. ʒ
M. ft. tab. No. i. S. One such at 10 A.M. and at 4 and 9 P.M.

—HENRY J. KENYON.

Neuralgic headache :

℞ Antipyrin 3 iss.
Antifebrin 3 ss.
Camphor monobromate 3 i.
Caffeine 3 ss.
Phenacetin 3 ij.
M. div. in chart. No. xx. S. Take one and repeat in one hour if unre-
ed.

—E. C. WENDT.

℞ Ammonii bromidi,
Sodii salicylatis āā 3 i.
Tinct. hyoscyami 3 ij.
Aquam. ad ʒ iv.
Teaspoonful every half-hour till relieved, or four doses are taken.

—HIGHTOWER.

tinued application.—BUXBAUM.

℞ Tinct. aconiti
Tinct. gelsemii.....
Ext. cimicifugæ fld.....
Spta. ætheris comp.....
M. S. One teaspoonful every hour.

Antineuralgic powder :

℞ Powdered guarana.....
Sulphate of quinine
Bicarbonate of sodium
Salicylate of sodium.....
Make three cachets. To be taken during the day.

℞ Exalgin.....
Spir. chloroformi.....
Aquam.....ad
One dose, to be repeated every four hours.

—J

Neuralgia of the Plantar Digital Nerves.—Treat with the stage. Abstain from action which causes p thick soles, with additional thickness behind the b metatarsals. A band of plaster around the instep. Contrast baths (hot, then cold). Elevate foot of b —JONES.

Of Rheumatic Origin.—Alternate application o cold. as in the Scotch douche.—BUXBAUM.

Periodic neuralgia:

℞ Extract. ergotæ fluidi,

Elixir cinchonæāā ʒ i.

M. S. Two teaspoonfuls in water every two hours, unless pain is relieved, when the intervals might be lengthened.

—W. H. THOMSON.

A nervine tonic:

℞ Asafoetidæ 3 i.

Acidi arsenosi. gr. ss.

Strychninæ sulphatis. gr. ss.

Ext. sumbul. ʒ iss.

Ferri subcarbonatis. ʒ ij.

Quininæ valerianatis. ʒ i.

M. Make capsules No. xxiv. S. One capsule after each meal.

—BROWN.

Intercostal neuralgia:

℞ Tinct. gelsemii gtt. c.

Syr. simplicis. ʒ iss.

Aquæ destillatæ 3 vi.

M. S. One or two teaspoonfuls two or three times daily.

—CHERON.

Caution.—If the heart is feeble this formula should not be employed.

℞ Ichthyol. 0.80

Aquæ destillatæ 100

M. S. Inject a syringe-ful into the painful area once a day.

—GOLDBERG.

For hypodermatic use:

℞ Antipyrin. 10 gm.

Cocain. hydrochloratis 0.15 cgm.

Aquæ destillatæ 10 gm.

M. S. For injection.

In inveterate cases:

℞ Acidi oamici. 0.10 cgm.

Aquæ destillatæ 6 gm.

Glycerini. 4 gm.

M. S. Inject 0.01 cgm. (or five to ten drops of a one-per-cent. solution).

—SHAPIRO.

℞ Quininae sulphatis..... 3 ij.
 Morphinae sulphatis..... gr. iij.
 Strychninae..... gr. ij.
 Acidi arsenosi gr. iij.
 Extr. aconiti..... gr. x.
 M. et ft. pil. No. lx.

—CARPENTER.

℞ Phenacetin,
 Caffeine.....ss gr. iij.
 Given hourly.

Or—

℞ Gelsemii..... gr. $\frac{1}{8}$ – $\frac{1}{4}$
 Hypodermatically.

Or, cocaine, gr. $\frac{1}{4}$, or a smaller dose to begin with.—TYSON.

Odontalgia :

℞ Cocaine hydrochlorate 1 part.
 Camphor 50 parts.
 Choral..... 50 parts.
 Water.....a few drops to obtain a clear solution.

A little of this solution is placed on a small piece of cotton, introduced into the cavity of the tooth, and allowed to remain there for twenty-four hours.

℞ Tinct. gelsemii gtt. v.
 Give three times a day, gradually increased to ten-drop doses.

—DA COSTA.

Caution.—When patient sees double stop administration.

Locally :

℞ Lini aconiti (B. P.),
 Chloroformi.....ss 3 iij.
 Tinct. capsici..... 3 i.
 Tinct. pyrethri,
 Olei caryophylli,
 Pulv. camphoræ.....ss 3 ss.
 M. S. A few drops on cotton to be placed in the cavity.

℞ Ext. hyoscyami..... 0.12 cgm.
 Ext. valerian..... 0.20 "
 Morphin. hydrochlor..... 0.01 "
 Pulv. glycyrrhizæ..... q.s.
 For one pill. Make xx. S. One morning and night, or not more than three
 twenty-four hours. —BASTIÉ.

When sleep is disturbed by the pain :

℞ Quininæ sulphatis..... gr. ij.
 Acidi hydrobromici dil..... ℥ xv.
 Tinct. gelsemii..... ℥ xv.
 Syrup..... 3 iss.
 Aquæ..... q.s. ad 3 i.
 T.i.d.

Or, exalgin, gr. ii., in solution.

In pain after taking food (stomach contents acid), Seidlitz
 vder minus about a quarter of the acid, leaving an excess of
 alkali.—F. C. COLEY.

Otalgia :

℞ Menthol.
 Camphor..... ʒss gr. v.
 Liquid vaseline..... 3 i.
 Instil into the ear several times a day.

℞ Quin. sulph..... gr. xvij.
 Potass. iodid..... gr. xxxvi.
 Sacch. alb..... gr. xlv.
 M. ft. chart. No. vi. S. One twice a day.

When acute give antypyrin in initial dose of gr. xvi. with
 f this quantity every hour subsequently.

In chronic forms :

℞ Zinci oxidi,
 Rad. valerian.,
 Ext. hyoscyami. alc..... ʒss 3 ss.
 Pulv. et ext. glycyrrhiz..... q.s.
 M. ft. pil. No. c. S. One a day, and increase from one a day up to thirty,
 decrease. —POLITZER.

Fumes of Chloroform.—Place a pledget of cotton in the bowl
 a clay pipe, moisten with chloroform, place the end of stem
 in the external meatus, and with the mouth over the bowl
 slowly blow in the warm breath.

Earache in Children.—Irrigate the external auditory canal

with water as hot as can be borne with comfort, for twenty minutes. Then pour into the ear two or three drops of atropine sul., gr. iii.; morphine sul., gr. xx.; water, ℥ i. When suppuration is feared, place a cantharides plaster over the entire mastoid region.—BRIGGS.

If wax is abundant instill a few drops of half strength warmed peroxide solution five minutes before syringing.

In tempero-occipital neuralgia (when persistent), insufflate compressed air into middle ear. If successful, investigate and treat nasopharynx, Eustachian tubes, or ear itself.

FACIAL NEURALGIA.

Two classes of facial neuralgia must be differentiated—the first usually due to exposure, cold, etc., of transitory nature, the other perhaps permanent and incurable.

DIAGNOSIS.—In the milder form the pain is less severe. There is sudden onset with increase up to a certain point, then decline, but rarely entire freedom between the paroxysms.

In the severe variety the paroxysmal nature is more pronounced. In the intervals there is entire absence of pain. There may be fifty or a hundred short paroxysms in the day, each reaching its maximum of intensity quickly and subsiding abruptly.

DIFFERENTIATION.—In hysteria, attacks are of irregular occurrence, each lasting longer and perhaps terminating in hysterical convulsions.

TREATMENT.—In the first form, analgesics; hydrobromate and valerianate of quinine. Opium is the only reliable drug in true tic of severe type.

R̄ Ext. thebaici..... 0.03

For one pill freshly made, not hard. S. Three pills daily at first and add one pill daily until under close watching the desired effect is produced.

—GILLES DE LA TOURETTE.

When rebellious, destruction of the ganglion is less apt to be followed by recurrence than simple section of the branches.

Complete extirpation should be superior to simple destruction of the ganglion.—MARCHANT AND HERBERT.

Have patient's teeth thoroughly examined. Do not sanction the extraction of healthy teeth. Put the muscles of mastication and articulation at rest.

Before resorting to surgical operations be satisfied that suitable, thorough, and persistent treatment has proven ineffectual. Cocaine introduced by electric cataphoresis may give temporary relief.

When other methods have failed, morphine subcutaneously in sufficient dose to insure absolute freedom from pain, while the general nutrition is improved as rapidly as possible.

Supra-orbital neuralgia of malarial origin :

℞ Quinine..... gr. x.-xv.
Morning and night.

—LESZYNSKY.

Neurexaresis, or extraction of the nerve by torsion.—
THIERSCH.

The extraction should be made as slowly as possible to include the finest twigs, and branches apparently free from pain should also be dealt with, since pain is rarely limited to one particular trunk.—ANGERER.

Facial neuralgia when obstinate :

℞ Aconitine gr. $\frac{1}{100}$
Every two hours.

—HAUSBERGER.

℞ Butyl-chloral gr. xl.-lxxv.
Alcohol. rectificat..... 3 iiss.
Glycerini 3 v.
Aquæ destillatæ..... q.s. ad $\frac{3}{4}$ iv.

M. S. From two to four teaspoonfuls, p.r.n.

—LIEBREICH.

℞ Liquor potassii arsenitis..... gtt. v.
Syr. rhei aromatici 3 i.
For one dose, thrice daily, after meals.

At night, apply a hot salt bag to the back of the neck and order the following pill:

℞ Ext. belladonnæ gr. $\frac{1}{2}$
 Ext. hyoscyami,
 Ext. colocynthidis comp.,
 Pulv. zingiberis $\frac{3}{4}$ gr. i.
 M. et ft. pil. No. i.

—J. M. DA COSTA.

℞ Potassii bicarbonatis 3 iss.
 Ext. ergotæ fld. 3 i.
 Inf. ergotæ. 3 vi.
 M. S. Two tablespoonfuls every four hours.

—EDWARD WAKES.

℞ Fl. ext. black cohosh. 3 iss.
 Fl. ext. gelsemium 3 iss.
 Fl. ext. valerian. 3 i.
 M. S. Teaspoonful every four hours.

—SWINNEY.

When of gouty origin, as indicated by ruddy complexion, presence of tophi, uric acid, history of gravel, etc., colchicum and Epsom salts.

In the most obstinate forms, ligation of the common carotid is safer and more certain than any of the intracranial operations.—RICKETTS.

Nitroglycerin or nitrite of amyl.—LEECH.

In supra- or infra-orbital, application of warmth and veratrine externally.—EVANS.

Hydrargyri iodidum rubrum, gr. $\frac{1}{20}$, increased to $\frac{1}{6}$.

Potassium iodide, gr. xx.-xlv., after each meal, continue two to three months, in addition to aconitine.—SEGUN.

To produce sleep :

℞ Chloral. gr. x.-xx.
 Morphine gr. $\frac{1}{12}$ - $\frac{1}{4}$

Caution.—Be careful about permitting habit to be formed.

For restorative effect, rest in bed until remedies have taken effect, careful diet, avoidance of alcohol.

For alterative :

℞ Hydrarg. bichloridi. gr. $\frac{1}{12}$ - $\frac{1}{8}$
 Potassii iodidi gr. vi.-x
 Tonic measures, massage, etc.

—EWART.

- R** Antipyrini..... 3 i.
 Cocainæ hydrochloratis..... gr. ss.
 Aquæ destillatæ..... 3 iiss.
M. S. Inject subcutaneously ℥ xv.-xx.

—GRANDOLÉMENT.

Rest in bed, milk diet, and strychnine, gr. $\frac{1}{30}$, injected hypodermatically each day and increased gradually to gr. $\frac{1}{8}$.

Agents which act on the vasomotor system, such as aconitine, nitroglycerin, etc.—DANA.

In trigeminal neuralgia :

- R** Aconitinæ (Duquesnel's)..... 0.006
 Glycerini,
 Spir. vini rectificati..... āā 4
 Aquæ menthæ piperitæ..... q.s. ad 62
M. S. Teaspoonful two or three times a day on an empty stomach.

—E. C. SEGUIN.

R Chloral.

- Camphor pulv..... āā 3 i.
 Morphinæ sulph..... gr. ij.
 Chloroformi..... ℥ xl.
M. S. ℥ xx. the dose. May be used locally.

—BARTHOLOW.

R Chloroformi.

- Tinct. belladonnæ..... āā 3 iij.
 Syr. aurantii corticis..... 3 iij.
M. S. 3 i. every two hours until the pupils become slightly dilated, when the intervals between the doses should be doubled.

—N. S. DAVIS.

- R** Strychninæ sulphatis..... gr. i.
 Quininæ sulphatis..... 3 i.
 Ferri reducti..... gr. xv.
 Ext. gentianæ..... 3 ss.
M. ft. pil. No. lx. S. One three times a day.

This is especially good for facial and stomach neuralgias. If there is a marked malarial element present, add arsenious acid, five grains, to the formula.—D. E. RUFF.

For trigeminal neuralgia :

- R** Tinct. aconiti..... 3 ss.
 Tinct. gelsemii..... ad 3 v.
M. S. Ten drops every twenty minutes as directed. Directions.—Take very twenty minutes until pain is relieved: not, however, to exceed eight doses, and stop earlier if any tingling is felt in the tips of fingers.

—H. B. WHITNEY.

Locally apply over the painful area with gentle rubbing a few drops of:

℞ Menthol,
 Guaiacol.....ss gr. xv.
 Alcoh. absoluti.....ʒv.
 M. S. Repeat as often as required. Cover the parts with cotton.

Or—

℞ Camphoræ,
 Chloral.....ss ʒi.
 Menthol.....gr. x-ʒss
 Rub in a few drops with fingers.

Or—

℞ Chloroform.....ʒv.
 Tincture of opium.....ʒiv.
 Salicylic acid.....ʒiv.
 Alcohol.....ʒiiiss
 Olive oil.....ʒviij.
 M. S. Apply.

Or—

℞ Guaiacol,
 Glycerini.....ss ʒij.
 M. S. Apply with a brush.

Caution.—Burning of tender skin may occur.

Or—

℞ Veratrinæ.....gr. viij.
 Lanolin.....ʒij.
 Ung. simp.....ad ʒij.
 M.

Or—

℞ Aconitinæ.....gr. iv.
 Veratrinæ.....gr. xv.
 Glycerini.....ʒij.
 Cerati.....ʒvi.
 M. S. Rub over the painful spots.

Caution.—Do not rub where the cuticle is abraded.—J. M.

DA COSTA.

(See also "Sciatica," "Neuritis.")

Neurasthenia.

Essential nerve prostration is a condition without demonstrable pathological lesion. Cerebral neurasthenia includes in its symptoms drowsiness, irritability, and depression.

DIAGNOSIS.—There are headaches, occipital or frontal, with a feeling of fulness or tightness, as by the pressure of a helmet upon or of weight in the head, or a dragging sensation in the back of the head associated with a dull ache in the back of the neck, which may be relieved for a time by recumbency, rest, or change of position. Brain work is carried out with decided effort and with an excessive sense of fatigue soon following. The neurasthenic is always in a state of physical and mental depression. He analyzes his every symptom and is inclined to speak of them to every listener. In spinal neurasthenia there may be the same dull ache in the cervical region, the same weariness on exertion, but usually backache and pains extending into the lower extremities are more common. In frequent association with lithæmia we find gastro-intestinal symptoms, vertigo, neuralgia, insomnia, and in some instances hysteria. In another class of cases, the symptoms will implicate more the circulatory apparatus and there will be attacks of palpitation and precordial pain, transitory flushing of the face, momentary development of erythematous blotches; and pulsations in the carotids and aorta.

Critzman speaks of absence of cremasteric reflex as a valuable sign of neurasthenia.

DIFFERENTIATION.—The diagnosis is to be made from nervousness, or what the Germans call "Nervosität," which is an excessive excitability of the nervous system; and from simple cerebral fatigue.

In all instances of supposed neurasthenia an exhaustive examination of the whole system should be carried out to detect

some organic defect of which these manifestations may prove to be but symptomatic. In those who have taken bromide of potassium the toxic effects of the drug, including irritability, depression, a tendency to moderate melancholia, gastric irritation, and disturbances of circulation, must not be confounded with the symptoms of neurasthenia.

From hysteria, by the absence of anæsthesia of the skin, lesser frequency of convulsions or paroxysms, a more moderate train of symptoms, occurring in mentally well-balanced individuals, usually males, after excesses or in association with physical deterioration. Recovery is gradual, while in hysteria it may be sudden, and in the latter emotional disturbances and functional perversions predominate. In spinal irritation, there is characteristic sensitiveness over the vertebræ.

Sexual neurasthenia, depending upon excesses and abuses of function and attended with lack of vigor and a preponderance of local symptoms, should not be confounded with the nervous manifestations habitually associated with pathological lesions in the genito-urinary tract.

In insanity the lack of will power, delusions, and hallucinations are more permanent in kind and duration. The nervous manifestations of Graves' disease may simulate this state before the characteristic signs develop.

PROGNOSIS for most instances is good. Whenever a removable cause can be discovered, so much better becomes the outlook.

TREATMENT.—Few drugs are useful, but intelligent treatment must be carried out systematically. The patient's confidence must be gained by impressing upon him your entire familiarity with the disease in general and with his own case in particular. Neurasthenics are usually apprehensive. They desire and deserve attentive service. It is not well, however, that they should constantly be reminded of their condition by having frequent doses of medicine to take; by having special

diet lists to follow at table, or by having a routine course of exercise laid out for them. If not already engaged in pursuits of a laborious rather than of a mental nature, some occupation should be found which will keep them engaged at manual labor out of doors, or pleasantly employed, as in bicycle exercise.

As Dr. Glorieux has suggested, since these patients like to relate their woes at frequent intervals to the physician, a course of treatment embracing electricity or a species of suggestion in the waking state may be carried out at regular intervals in the physician's office.

Caution.—There is often a decided desire for alcoholic stimulants. These must be used with great discrimination to avoid a habit easily formed in this class of patients.

Prophylaxis.—The children of neurasthenic parents should have the best hygienic surroundings and their training and subsequent occupation should receive careful consideration.

In sexual neurasthenia :

R Zinci bromidi,
Zinci valerianatis,
Zinci oxidi 5ā gr. xv.
Rosæ conserv. q.s.

M. ft. pil No. xx. S. One an hour after breakfast and dinner, and before retiring.

As a tonic in the same affection :

R Strychninæ,
Phosphori 5ā gr. ʒ
Ext canuabis indicæ gr. ʒj.
Ferri carbonatis gr. xx.

M. ft. pil No. xxv. S. One before meals.

As a sedative :

R Potassii bromidi ʒij.
Ammonii bromidi ʒi.
Potassii bicarbonatis gr. viij.
Tinct. calumbæ ʒi.
Aquæ ʒiv.

M. S. Teaspoonful to tablespoonful night and morning.

—ROCKWELL.

In spermatorrhœa and anaphrodisia of sexual neurasthenia:

℞ Cornutinæ citrat.....	0.03 cgm.
Cretæ præparat.....	3 gm.
Gum. tragacanth.....	6 gm.

M. ft. pil. No. xx. S. Two to four pills daily.

—BOZZOLO AND MANGIANTI

Caution.—Cornutine is a powerful alkaloid extracted from the ergot of rye.

Strong galvanic currents to the abdomen and general galvanic stimulation are preferable to the routine methods of using the faradic current.—G. B. MASSEY.

Associated with urethral or prostatic irritation, cold applied to the prostatic urethra through the two-ways cooling-sound.

When seminal vesiculitis is found, appropriate treatment by finger massage, etc., is to be carried out.

In sexual neurasthenia :

℞ Quininæ sulphatis.....	gr. xx.
Ferri subcarbonatis (U. S. Ph. 1870)	3 i.
Strychninæ sulphatis	gr. ss.
Ext. damianæ	gr. xx.
Ext. cinchonæ.....	gr. xl.

M. ft. caps. No. xx. S. One after each meal.

—BEDFORD BROWN.

Neurasthenic debility :

℞ Acidi phosphorici diluti	3 i.
Ext. cocæ fld	3 ss.
Ext. damianæ fld.....	3 ss.
Tinct. nucis vomicæ.....	℥ x.
Syrup. zingiberis.....	3 i.
Aquæ.....	q.s. ad 3 ss.

Ft. dosis. S. To be taken in water at 11 A.M. and 6 P.M.

—SIR ANDREW CLARK.

Or—

℞ Sodii phosphatis	3 ss.
Carabaña water.....	3 ss.

M. S. Drink in a full glass of hot water a half-hour before breakfast every morning.

—FREDK. PETERSON.

When the symptoms are attributable to the cerebro-spin

tem, moral treatment with suggestion to restore to the patient confidence in himself. Hydrotherapy and tonics. Most subjects will derive more benefit from tepid than from cold riches. Among tonic drugs iron, especially the peptonate, and kola.—LORCHET.

An excellent nerve tonic and sedative is:

℞ Quinine valerianate.....	gr. xl.
Iron subcarbonate	gr. lxxx.
Arsenious acid	gr. i.
Strychnine sulphate	gr. i.
Asafoetida	3 ij.
Extract sumbul	3 i.

Make forty-eight capsules. One after each meal.

℞ Strychninæ arsenitis	0.1
Zinci phosphidi	0.4
Calcii iodidi,	
Ferri sulphatis,	
Saponis amygdalin. anisati (Fr. Cod.).....	ãã 4

M. et ft. pilulæ xl. S. One after breakfast and dinner.

In the spinal form, rest.

In hyperæsthesia and mental agitation, codeine phosphate, $\frac{1}{2}$, after dinner and supper. This can be increased until gr. or more are given daily.—DORNBLUTH.

℞ Tinct. kola,	
Tinct. coca	ãã $\frac{3}{4}$ iss.
Citric acid	gr. xv.
Arsenate of sodium.....	gr. $\frac{1}{2}$

M. S. Teaspoonful three times daily.

When gastric symptoms are prominent :

℞ Zinci phosphidi.....	0.1 gm.
Zinci bromidi	1 "
Quininæ hydrobromatis	1.5 "
Ext. nucis vomicæ.....	0.15 "

M. ft. pil. No. xxx. S. One three times a day.

In neurasthenia gravis, due to physical or sexual overexertion, electricity, cold water or thermal baths, massage, moderate exercise, sojourn at the sea, etc.—LEONARD WEBER.

The monotony of complete rest acts as an irritant rather than

as a tonic sedative. Activity tempered to the necessities of the patient is far more potent. Electrization, for its influence upon metabolic function and secondarily upon nutrition. The three bromides, combined with zinc and cannabis indica, furnish perhaps the most efficient form of internal medication.—A. D. ROCKWELL.

A system of mild gymnastics or drill, including medicinal baths.—SCHOTT.

In looking for causes to be eliminated do not overlook *coitus reservatus*. The symptoms of groundless anxiety and painful apathy for surroundings are here commonly present.

Recumbent rest alternating with active exercise. Hot fomentation to the entire spinal region alternating with ice applications.—PETTYJOHN.

In the early stages, characterized by general fidgettiness, inability to keep quiet, with restless look in the eyes, disagreeable feeling in the epigastrium, and perhaps insomnia, rest and food may avert a catastrophe.

When all work becomes impossible, a settled melancholy succeeding the previous exaltation and hysterical disturbances manifesting themselves, a rest extending over a couple of years or perhaps more may become necessary.—IVATTS.

The gray substance of sheep's brain diluted with water, by injection.—CONSTANTIN PAUL.

Pearls of phosphorus containing gr. $\frac{1}{100}$ – $\frac{1}{80}$, valerianate of quinine and zinc, cod-liver oil, maltine, hypophosphites. If heart's action be not impaired, cold baths.

Caution.—Avoid strychnine and nux vomica, as they increase muscular twitchings.—THOS. D. SAVILL.

Calcium glycono-phosphate, gr. v. in capsule, with each meal, and continue for a year or until cured.

When there is marked physical depression :

R Vini calcii glycerophosphatis ʒ viij.
S. Sherry glass full before meals.

To promote nutrition of the cord add strychnine sulphate, gr. $\frac{1}{16}$ - $\frac{1}{8}$ to each dose for a month, then leave off for a week or two.

Cathartic mineral waters before breakfast or a dessertspoonful of Carlsbad Sprudel salts in a cupful of hot water. Vichy or plain water between meals.—QUACKENBOS.

In traumatic neurasthenia, or "railway spine," with inability to use mind or muscle, it is our duty to discourage litigation.

Worry and trouble in connection with the latter may transform the neurosis into a cortex habit and make the subject an invalid for life.—QUACKENBOS.

℞ Ferrous lactate..... gr. ij.
Quinine sulphate..... gr. i.
Ext. of ignatia..... gr. $\frac{1}{4}$
For one pill. Dose, one or two before eating.

—S. WEIR MITCHELL.

℞ Sodii phosphat..... 1
Aq. laurocerasi..... 50
M. S. Inject 0.10 to 1 gm. daily.

—CROCQ.

In headache :

℞ Zinci valerianat.,
Ferri sulphat.,
Ext. rhei,
Asafoetidæ.....ãã gr. xvij.
M. ft. pil. No. xx. S. One t.i.d.

In brain fag with continual headache, phosphorus, 0.0006 gm., to be gradually increased.—HARTCOP.

To induce sleep, sponge off with cool water, wrap in blanket wrung out in hot water, cover with dry blanket, outside of which hot bottles are applied.—D'AUBRAY.

For insomnia, flannel bandages, six to eight inches wide and five yards long, wrung out of water at 95° F. and applied about the chest and abdomen. The bed must be protected by rubber sheeting.—G. RICHARD.

℞ Paraldehyde gr. xxxviiij.
 Fluid extract of piscidia..... gr. lxxv.
 Syrup of wild cherry..... ℥ iss.
 M. S. To be taken at once in a cup of orange-flower water.

—MONTIX.

℞ Chloral formamidate,
 Tincture of ginger..... āā 1 part.
 Mint water..... 15 parts.
 M. S. A tablespoonful to be taken at the time of going to bed.

℞ Chloralamid..... ʒ ij.
 Spir. frumenti,
 Syrupi rubi idæi..... āā ʒ i.

M. S. Half teaspoonful, increased if necessary to a teaspoonful and a half at dose.

—CLEVINGER.

When due to exhaustion or emotional causes, trional, 1.5 gm. To be taken in milk an hour before bedtime. If satisfactory sleep is produced, give one gram the following night. A warm sitz bath may be given just before retiring. Avoid coffee.—DORNBLUTH.

It is perfectly safe to give thirty grains of trional in hot beef tea.

In milder cases :

℞ Tinct. passifloræ incarnatæ ʒ i.
 S. Teaspoonful at bedtime.

—DANIEL.

In agoraphobia, hypnotic suggestion. Instances in which there were nervous symptoms when the patients entered churches, theatres, or shops, with depression, anxiety, etc., are reported cured.—TUCKEY.

When all drugs fail, hypnotism.—QUACKENBOS.

Neuritis.

Here a single nerve or a large number may be simultaneously involved, giving the simple or multiple forms.

DIAGNOSIS.—In the first or localized variety, pain may be circumscribed or extend over the whole course of the inflamed nerve distribution. In character it is burning or of a boring or shooting nature. Glossy skin, œdema, and muscular wasting may follow; sometimes an ichthyotic condition of the surface is noted.

DIFFERENTIATION.—It is to be differentiated especially from neuralgia. The pain is increased by pressure and motion and there may be tenderness over the parts supplied by the nerve or a condition of hyperæsthesia and wasting or paralysis of the muscles. In neuralgia, on the other hand, the nerve trunks are not tender and the pain is more intermittent in its character. Œdema, cutaneous eruptions along the nerve's course, alteration in the nails and various paræsthesiæ, including diminished sensitiveness of given areas, point to neuritis.

Distinction is also to be made from myalgia, thrombosis, and embolism.

PROGNOSIS.—An acute case running a favorable course is well in a few weeks' time. Most cases, however, pursue a chronic course and recurrences are not unusual.

TREATMENT.—Seek for such underlying causes as syphilis and gout. Perfect rest of the patient and of the affected limb. Fly blisters; heat or cold, according to the greatest relief secured. Firing along the course of the painful nerves with the Paquelin point. Galvanism with the positive electrode over the painful area. If gout is discovered, colchicum. Salicylate of sodium or salophen. When pain is severe morphine subcutaneously.

Peripheral Neuritis.—Strychnine, grain $\frac{1}{80}$ – $\frac{1}{40}$, three times daily.—STODART WALKER.

Neuritis, Multiple.

In peripheral or polyneuritis a number of nerves, especially those of the arms and legs, become simultaneously or successively inflamed. There are tenderness, sweating, and spontaneous pain. There may be paralysis of the muscles supplied by the affected nerves and subsequently wristdrop or footdrop may be noted. The early symptoms include numbness, dull pain along the course of the limb, sometimes shooting or burning in character and with more or less constant tingling. Tendon reflexes are lost. Symmetry is a characteristic feature. Epidemics have been reported.

There are a variety of clinical forms, including the alcoholic, diphtheritic, plumbic, leptic, tabetic, beriberic, diabetic, enteric, arsenical, etc.

Coal gas, mercury, copper, zinc, and phosphorus are at times also causative agents.

DIFFERENTIATION.—From anterior poliomyelitis, by pain and tenderness along the nerves, sensory symptoms, distribution of paralysis symmetrically.

From myelitis, by absence of affection of bladder and rectum, by absence of bed sores and tenderness of spine to heat, and by distribution of symptoms in periphery.—M. ALLEN STARR.

In neuralgia the pain is very persistent, less symmetrical, and less widely distributed. In locomotor ataxia there is not such early loss of muscular power but rather inco-ordination, and the pains are lightning-like in their suddenness and intensity, though less persistent. There is loss of bladder control and the pupils do not react to light.

In poliomyelitis the pain is in the muscles and made worse by motion, and not in the course of the nerves, as in neuritis.

Poliomyelitis anterior tends specially to attack young children and is rapidly followed by paralysis.

Acute ascending paralysis may be very closely simulated by a neuritis of acute onset. It ascends rapidly to the trunk without causing loss of sensation.

Diffuse myelitis does not have the symmetrical distribution of neuritis and there is less alteration of electrical reaction.

Syringomyelia is distinguished by the tactile sense being preserved while pain and heat sense is abolished, and by the characteristic association of atrophic paralysis and spastic paraplegia.

Hysteria with emaciation simulating muscle atrophy has absence of the characteristic nerve-trunk and muscle pain of neuritis, and stigmata are to be found.

PROGNOSIS depends on the primary cause and severity of attack, being especially bad in locomotor ataxia, diabetes, tuberculosis, and lepra.

After a few weeks of increasing symptoms improvement may slowly set in, but most instances are protracted. The resulting paralysis disappears first from the lower extremities. In incurable disease of which neuritis is a symptom it is apt to persist for life.

TREATMENT.—Strychnine is almost invariably of benefit.—**WALKER.**

Acetanilid.—**BARTHOLOW.**

If history or suspicion of specific origin, antisyphilitic medication. Electricity after acute stage. Massage, when atrophy is marked and pains are decreased.

Multiple neuritis following influenza, rest in bed, morphine injection to relieve pain. When the latter is not very severe:

R Cinchonidinæ salicylat gr. v.
Every two hours in pill or cachet.

For pain in an extremity, firm pressure with a flannel bandage.

When painful nerve trunks are superficial, blisters applied over them may give relief.—**ALLYN.**

Neuroses of Occupation.

WRITER'S CRAMP.

Among the professional neuroses this is one of the most common and difficult to manage. It comes on gradually, the fingers stiffening and refusing to respond to the volition each time the pen is taken in hand. In one form there is trembling, in another a spasmodic contraction of different muscles, the index being extended or flexed while the thumb is thrown out in an opposite direction, or the terminal phalanges may be flexed while the first phalanx is extended. The movements are produced at first after the hand is tired from writing, but later on they occur at the beginning of the attempt. At times the cramp is painful. It affects chiefly those mentally overworked and neurasthenics.

TREATMENT.—Prolonged rest from attempts at writing, associated with static electricity and massage, active and passive.

The use of especially constructed penholders enables some to continue to write.

Bouchut claimed cures from the use of copper penholders bound with zinc.

WATCHMAKER'S TIC.

Twitching about the eye and in the muscles of the face on the side upon which the watchmaker wears the monocle lens may seriously interfere with his work.

Cohn, of Berlin, has reported such an instance.

HABIT SPASMS.

Implicating certain muscles and resulting from some repeated act or mimicry do not properly belong to this same group. In the young they may be cured by moral training.

CONVULSIVE TICS.

Spasms implicating the face and neck muscles especially, but **also** the arms and shoulders in quick jerky motions and contortions, furnish still another condition to be differentiated. An **exclamatory** tic with repetitions of some particular word may constitute the whole affection.

It is often difficult to cure and relapses are frequent.

Treatment consists in isolation, quiet, rest, change of scene, **exercise**, gymnastics, horseback and bicycle exercise.

Conium and atropine.—GRAEME HAMMOND.

IRONER'S CRAMP.

This occupation neurosis is in the nature of a compression **paralysis**. Clothes pressers and laundresses at constant work with heavy irons occasionally suffer from numbness, shooting pains, and weakness of the muscles. The fingers may become **cramped** and stiff, accompanied by paræsthesia symptoms.

COLPORTEUR'S TIC.

This has recently been reported by Grasset. The spasm implicated the trapezius, pectoralis major, sterno-mastoid, and dorsalis major on the right side; the subject frequently executing just the movements to which he was habituated in slinging his pack over the shoulder.

CIGARETTE MAKER'S CRAMP.

Such an affection has been described implicating the muscles of the thumb and first finger of each hand.

Telegraphers and others engaged at constant work of a particular kind suffer in a like way.

TREATMENT.—Occupation must often be changed on account of recurrences.

Systematic muscular exercise of the affected hand together with massage may result in some benefit.—L. PIERCE CLARK.

Neuroses, Traumatic.

Symptoms may come on soon after an injury, as, for instance, after a railway collision, or at some more remote period. They are chiefly those of neurasthenia, including muscular and nervous irritability, depression, spinal tenderness, occipital pain, or hysterical manifestations. There is increased knee jerk. The difficulties of diagnosis are often very great.

DIAGNOSIS is based chiefly on the history of injury, usually in association with severe mental shock.

DIFFERENTIATION.—From hysteria, the spinal lesion is distinguished by true paralysis of distinct groups of muscles or of the bladder, loss of sexual power, distinct anæsthesia, etc.

The fact that the symptoms are subject to rapid and wide changes does not necessarily indicate simulation on the part of the patient.

PROGNOSIS depends upon the presence or absence of organic change. If such is not present recovery usually follows, but possibly not for months or years.

TREATMENT.—Absolute mental and bodily rest. Careful feeding, electricity (galvanism), massage, and measures applicable to neurasthenic conditions.

Caution.—Narcotics are to be avoided.

Obesity.

Though not, in the majority of instances, what one may strictly define as a disease, overfatness is frequently an abnormality for which relief is sought.

DIAGNOSIS.—In the absence of a standard of normal weight, corresponding to height, age, and other conditions, we are governed by the discomfort of which the overfat subject complains.

The excessive deposit of adipose tissue may be localized or generally distributed.

DIFFERENTIATION is to be made from conditions of œdema, elephantiasis, myxœdema, cretinism.

PROGNOSIS depends upon whether the overfatness is of congenital origin, of long duration, or recently acquired. The conditions of general health making it possible or not to carry out a rigid course of treatment influence largely the results.

TREATMENT.—*Oertel's Diet List.*—*Breakfast.* Wheat bread, 50 gm.; coffee, 130 c.c.; milk, 20 c.c.; sugar, 10 gm.

Dinner. Soup, 150 c.c.; stewed beef, 200 gm.; vegetables, 100 gm.; salad, 50 gm.; farinaceous dessert, 100 gm.; black bread, 50 gm.; wine, 125 c.c.

Afternoon coffee. Coffee, 130 c.c.; milk, 20 c.c.; sugar, 10 gm.

Supper. Egg (soft-boiled), 1; fried meat, 150 gm.; green salad, 50 gm.; roll, 50 gm.; Pfalz wine, 250 c.c.; water, 250 c.c.

Artificial Kissingen water, a large glassful twenty or thirty minutes after meal, and artificial Vichy water in the same way on alternate days, in connection with suitable diet and moderate out-of-door exercise.—W. T. CATHELL.

Diet.—Bread, 150–300 gm.; lean meat, 300–350 gm.; green vegetables or salad, 200–300 gm.; fruits (green), 200–300 gm.; water, 1,200–1,500 gm.—MATHIEU.

R Iodi.....	2 gm.
Potassii iodidi.....	4 "
Aquæ.....	200 "

M. S. A dessertspoonful two or three times daily.

—DESCROIZILLES.

R Potassii permanganatis.....	gr. iv.-xvi.
Aquæ.....	℥ iv.

M. S. 3 ii. t.i.d.

—BARTHOLOW.

In anæmic subjects, iron in small doses.

Or—

℞ Magnesii sulphatis..... ʒ ss.
 Ferri sulphatis gr. viij.
 Acidi sulphurici diluti ʒ i.
 Aquæ ʒ iv.

M. S. Dessertspoonful in a glass of water through a tube three or four times daily.

Thyroid Medication.—In the beginning, fresh thyroid gland, gr. iii.–v., gradually increased, not to exceed gr. xv. daily, but continued for a long period. The extract or desiccated thyroid may also be used.

Caution.—Discontinue, if shortness of breath or other evidence of systemic disturbance makes its appearance. An occasional intermission is in order.

When thyroid disagrees, iodothyrim, gr. ii.–v., cautiously increased.

As a rule, avoid thyroid treatment in all subjects presenting heart symptoms. Avoid too large doses and too rapid reduction.

In fatty infiltration of the heart, the practical results following the cautious administration of very small doses of thyroid have been exceedingly satisfactory to me.—MELTZER.¹

In simple obesity without other treatment this will bring about a reduction of weight, without giving rise to serious complications.

Iodothyrim, 0.25–0.50 cgm., in compressed tablet. Ascertain for each case the dosage tolerated. Six tablets daily, increased to eight, after a week to ten, and after a fortnight to twelve. Suspend after fifteen or twenty days and resume later.—LUTAUD.

One advantage of cure by thyroid is that special diet does not enter so largely into it as in the older methods.

Banting Cure.—The diet list originally prescribed by Dr. Harvey allows an abundance of meat, fish, and alcoholics. Carbohydrates are scarcely permitted and fats are especially advised against.

Caution.—Digestion becomes impaired and various conditions of debility are produced, leading, in some instances, to death.

Ebstein Cure.—Meat and carbohydrates are restricted but fat is freely allowed.

Caution.—Dyspepsia may result from this too fatty diet.

If the stomach will bear it, ext. fuci vesiculosi fld., 3 i.—3 ii. of a reliable preparation, before each meal, is said to have been followed by good results.

The berries of the *phytolacca decandra* have enjoyed some reputation among homœopathists.

Phytolin, said to be made from poke berries, is given in dose of ten minims.

Schweninger Cure depends upon massage of the abdomen, hot baths, and diet. The first is given for fifteen minutes three times daily before meals. Tapping, pinching, and kneading are the chief forms. Baths at 99.5° to 122° F. are given to the arms, legs, and hips on successive days, but no general baths. Food is served in small quantities every three hours.

Bread, cakes, butter, fat, sugar, tea, coffee, milk, wine, beer, and brandy are excluded.

Œdema, Acute Circumscribed.

A sudden attack of circumscribed swelling, especially upon the face, lasting but a short time and recurring periodically, characterizes this peculiar symptom of a vasomotor neurosis.

DIAGNOSIS is important as an aid in doubtful neurotic affections.

DIFFERENTIATION.—Angioneurotic œdema is distinguished from urticaria, the giant form of which closely resembles it, by the absence of itching and of characteristic wheals elsewhere.

From erythema nodosum of the non-febrile form, by the absence of tenderness and of rheumatoid pains.

PROGNOSIS.—It may endanger life from œdema of the larynx and in several instances the latter has proved fatal.

TREATMENT.—Peripheral irritation of any kind should be corrected and measures for improving the state of the nervous system should be instituted.

Salt moistened with water briskly rubbed with a firm hand over the entire spinal region. Sponge for several minutes with water at first hot and then gradually cooled, until the surface is well reddened.—J. N. HYDE.

Osteomalacia.

This chronic affection of the adult skeleton, otherwise known as mollities ossium, in which the bones become so soft as to break upon the slightest external pressure or muscular effort, results in shortening of the body and rounding of the back, provided the patient is up and about. There is a peculiar hobbling gait.

The earliest symptom is usually pain in the sacrum, pelvic bones, or spinal column.—RITCHIE.

DIFFERENTIATION.—On pressing upon the affected bones crepitation, like that of eggshells crushing beneath the fingers, is experienced. Osteosarcoma of a joint gives this same crepitation, but sarcoma and carcinoma of bones in general are preceded by pain, and when spontaneous fracture has occurred, as it also does in these affections, there is local swelling.

From disease of the cord and spinal bones, by the gait.

PROGNOSIS.—Recovery is possible. Death after from one to ten years from complication or exhaustion.

TREATMENT.—

℞ Phosphori..... gr. i.
 Olei morrhuæ..... ʒ ij.
 M. S. Teaspoonful once daily.

—STEINBERG.

Caution.—The above is the maximum dose.

Phosphorus in $\frac{1}{16}$ to $\frac{1}{8}$ grain doses. If no benefit is derived, castration is to be considered. Bone marrow may be tried.—GUILLAUME.

Glycerin extract of bone marrow, 3 i.—3 iss., after each meal, increased until $\frac{3}{4}$ iv. weekly is taken.

Or, tabloids of the thyroid extract, which seems to have greater therapeutic value.—ALLISTON.

R Phosphori 0.01 cgm.
 Olei amygdalæ dulcis..... 10 gm.
M. deinde adde:
 Pulv. acaciæ,
 Syr. simplicis..... 5 gm.
 Aquæ destillatæ 80 gm.
M. S. Teaspoonful two to four times daily.

—STRÜMPPELL.

R Syr. calcii lactophosphatis 3 i.—ij.

R Syr. hypophosphitum... 3 i.—ij.

—TYSON.⁹

Hydrotherapy.—Cold-water cure gave a good result.—BERNHART.

Osteomyelitis.

A typical feature of this affection, which is a staphylococcic pyæmia in growing children, is the rapidly increasing pain of a deep-seated nature in one of the extremities near a joint, accompanied by swelling without redness or fluctuation, and attended with elevated temperature and possibly chills.

DIAGNOSIS.—The chief diagnostic feature is a markedly sensitive point at or near the junction of the epiphyses. Pyæmic symptoms are to be looked for.

DIFFERENTIATION.—It is often confounded with rheumatism, under which heading the differential diagnosis has been given. Typhoid fever and erysipelas have also been erroneously diagnosed.

PROGNOSIS.—Death or deformity may be the penalty of delayed diagnosis.

TREATMENT.—Necrosis and subsequent damage are prevented by immediate incision to and through the periosteum, even chiselling into the marrow of the bone.

Pachymeningitis.

Inflammation of the dura mater, unless it produce a paralysis to be made out as due to cortical pressure, has no distinctive signs. The headache, convulsions, and perhaps delirium are to be differentiated chiefly by exclusion from those due to other causes.

If the headache be attended with marked somnolence, and a history of syphilis, sunstroke, chronic alcoholism, or trauma can be elicited, the hemorrhagic form or hæmatoma may be justly suspected.

The tuberculous form occurs only in association with other intracranial tuberculosis.

TREATMENT.—Small doses of mercurials and iodides, especially in the presence of syphilitic history.

Counter-irritation, as by the actual cautery.

If tuberculosis elsewhere causes this condition to be suspected, treatment as for phthisis or tuberculosis is general. In the hemorrhagic variety treat as for apoplexy.

Pancreatitis, Acute.

Vomiting of a continuous nature with intense pain in the upper abdomen, increased on deep inspiration and pressure, subnormal temperature, cold sweats, constipation, and collapse, go to make up the symptom complex which necessitates the differentiation from acute intestinal obstruction, perforation in the digestive tract, perforation of the gall bladder or of a bile duct, and attacks due to some irritant poison. The swelling, which is at first in the epigastrium, soon becomes general.

Fitz describes hemorrhagic, suppurative, and gangrenous forms. Bleeding into the organ may be rapidly fatal. There is deep-seated pain in the epigastric region, coming on suddenly. Delirium may occur.

DIAGNOSIS embraces the following points: 1. The location of

the primary seat of the disease in the epigastrium. 2. The suddenness of the attack, with severe gastric, epigastric, or abdominal pain, accompanied by great prostration and vomiting. 3. Tenderness in the epigastric region, with tympanites and a mass recognizable by deep palpation. 4. Absence of fever, or but moderate fever during the first two or three days of the attack.—FOWLER.

DIFFERENTIATION.—Biliary affections, including perforation, are excluded by the absence of history of gall stones, by the absence of jaundice and attacks of indigestion. A sudden attack without history of previous pain after eating, or of hemorrhages, would exclude perforation following ulcer of the stomach or duodenum. Poisons would be discovered by an examination of the stomach contents. Intussusception may be simulated by the presence of a sausage-like mass.

Obstructions are rare in the epigastric region, and, as Fitz has pointed out, "the immediate presence of a localized tenderness and the usual absence of a conspicuous general tympany are material aids in the differentiation."

In carcinoma of the pancreas there are irregular or voracious appetite, great weakness, loss of flesh, and deep epigastric pain, which is often very severe.

Perforative peritonitis is excluded by lack of evidence pointing to previous gastro-intestinal disease.

PROGNOSIS.—If not rapidly fatal, recovery is possible in acute pancreatitis. The suppurative form ends fatally after three or four weeks. Spontaneous evacuation of a necrosed pancreas may be followed by recovery.

TREATMENT.—Surgical intervention might succeed after the reaction from collapse.

The tail of the pancreas has been successfully removed by Kleberg.

In the hemorrhagic variety treatment can be but palliative.

Rupture of the pancreas as a possible result of a blow upon

the abdomen must be borne in mind when the symptoms include fainting and vomiting followed by perverted appetite.

A cyst may form and protrude into the epigastrium. Puncture in the middle line between the stomach and transverse colon will demonstrate a white-of-egg-like limpid fluid.—HADRA.

Paralysis, Acute Ascending.

Landry's paralysis is rare. Male subjects between the ages of twenty and forty are those mostly affected.

DIAGNOSIS.—It begins in the legs and extends within a few hours or days to the parts above, at times even implicating the facial muscles.

Sensation is unimpaired, there is no pain, reflex action is lost. The functions of the bladder and rectum are undisturbed.

PROGNOSIS is grave, death being generally due to respiratory paralysis.

Paralysis Agitans.

In Parkinson's disease, or shaking palsy, the character of the tremor, as the initial manifestation, serves to distinguish the affection from the toxic, hemiplegic, hysterical, and other affections which somewhat resemble it.

DIAGNOSIS.—The onset may be gradual or sudden, and implicates all the limbs or single groups of muscles. The head does not, as a rule, participate in the trembling movement. The tremor is peculiar in that it is suspended during voluntary movements and is manifested in repose. It ceases, however, during sleep. The oscillations are regular and rhythmical, but of slight extent and number about five to the second. The phalanges are extended, while the fingers are flexed almost to a right angle and the thumb is carried inward. Involuntary movements in the muscles of the head are exceptional. The head usually presents a striking appearance, as though immobi-

fixed in some way upon the shoulders. The gaze is fixed, the jaw drooping, perhaps permitting the saliva to dribble. The attitude and gait are peculiar, the subject appearing as though propelled forward or as though about to run.

DIFFERENTIATION.—Senile trembling affects especially the head and upper extremities.

Hysterical tremor is suspected when the subject is of the female sex and stigmata are detected.

Toxic tremors, as from alcohol, mercurials, etc., are lacking in some of the characteristics above given and show other signs of the particular poison at fault.

In the tremor of general paralysis of the insane there are psychical manifestations, pupillary changes, and disturbances of speech which make it possible to be distinguished.

Multiple sclerosis is perhaps the condition most likely to be mistaken for paralysis agitans; here the involuntary movements alone induce the trembling. The marked test is to have the patient reach for some object and note the increased tremor as the object is approached by the hand. There are also head symptoms and head movements, which are usually absent in paralysis agitans.

There is no specific treatment, and palliative measures are alone advocated. Hyoscyamine acts upon the motor phenomena. The hydrochlorate or the amorphous salt (Grasset) may be used in granules of 1 mgm. each, gradually increasing the dose up to 4 or 5 mgm. and again gradually decreasing. Perhaps duboisine is more in favor than the former:

R Duboisine sulphat..... 0.01

Aq. laurocerasi 20

M. S. A syringe containing one-quarter of a milligram by subcutaneous injection.

—DUJARDIN-BEAUMETZ.

R Solaninæ 0.01

Pulv. hyoscyami..... 0.02

Sodii bicarb..... 0.20

M. S. To be taken in the twenty-four hours.

—SAINTON.

TREATMENT.—*To combat the tremor :*

℞ Strychninæ sulphatis,
 Acidi arsenosi..... \mathfrak{ss} 0.06
 Ext. belladonnæ..... 0.3
 Quininæ sulphatis,
 Mas. pil. Bland..... \mathfrak{ss} 2.4
 Ext. taraxaci q.s.
 M. ft. pil. No. xc. S. Three pills daily.

—S. W. GROSS.

℞ Hyoscyami..... gr. $\frac{1}{16}$
 Gradually increased to gr. $\frac{1}{8}$.

—BARTHOLOW.ⁿ**Or—**

℞ Hyoscyaminæ hydrobromat..... gr. ij.
 Aquæ \mathfrak{z} i.
 M. S. One drop into the eye may give relief from the shaking of several hours' duration.

—CHALMERS.

Caution.—A partial paralysis may come on, but it will gradually disappear.

℞ Duboisine sulphate..... gr. $\frac{1}{16}$
 Codeine..... gr. $\frac{1}{4}$
 M. ft. tab. No. i. S. One or two night and morning.

—FREDERICK PETERSON.

℞ Uranii bromidi..... gr. $\frac{1}{16}$
 —C. L. DANA.

℞ Sparteinæ sulph gr. $\frac{1}{4}$ — $\frac{1}{4}$
 S. At dose t. i. d.

—POTTS.

Paralysis, Bell's.

In facial-nerve paralysis the face is drawn forcibly to the sound side whenever the facial muscles are called into play. The angle of the mouth droops, the eye cannot entirely close and the affected side is motionless, allowing food to collect between the teeth and buccal mucous membrane. Hearing and taste may be impaired. When of cerebral origin paralysis the facial nerve is distinguished by the electrical reaction remain-

ing normal and the fact that the frontalis muscle and the orbicularis palpebrarum habitually escape involvement. The ability to whistle is lost; the tongue, when protruded, seems to incline toward the paralyzed side because of the pronounced deformity.

Facial paralysis due to otitis media may be wrongly attributed to catching cold. The prognosis in this form is good.

TREATMENT.—*In rheumatic facial paralysis* recovery may be hastened by electrical treatment. In severe forms complete restoration of function may be promoted and the onset of contracture and spasm combated.—ERB.

The electro-therapeutic formula may be as follows: Place one electrode (anode), having a diameter of $1\frac{1}{2}$ inches, over the auriculo-mastoid fossa of the affected side; the other electrode, 2×2 , in the corresponding position on the sound side. Use a continuous current stable; intensity, 2-4 m.a.; duration, two minutes. Make and break very gradually. *Peripheral treatment:* Apply one electrode (anode), 2×2 , behind the affected ear. The other electrode, $\frac{1}{2}$ in. diameter, is used labile over the affected muscles in the direction of the ramifications of the plexus anserinus; intensity, 3-4 m.a.; duration, three to four minutes. The movement of the electrode is in a circular direction over the orbicularis palpebrarum. Strong faradization has been blamed, and probably with justice, for inducing contracture.—NEUMANN.

Paralysis, Hemiplegic.

Hemiplegia or unilateral paralysis, including the face, arm, and leg upon the same side of the body, is a symptomatic manifestation of disease or injury of the brain in the region of the motor area of the cortex.

DIAGNOSIS.—If the lesion is above the pons the opposite side is the one paralyzed. Generally in lesions of the pons there is palsy of the face on one side and of the extremities on the other.

TABLE OF DIFFERENTIAL LOCALIZATION.

<i>Hemiplegia.</i>	<i>Seat of Lesion.</i>
With motor aphasia.	Third left inferior frontal convolution (Broca's).
With hemianæsthesia.	Posterior horn of internal capsule.
With paralysis of lower portion of face.	Posterior horn of internal capsule.
With crossed facial paralysis.	Pons.
With crossed motor-oculi paralysis.	Crus cerebri.
With anarthria (difficulty of articulation).	Medulla oblongata.
With difficulty in swallowing.	Medulla oblongata.

Dilatation of one pupil, and more especially unilateral papillitis, upon the same side as the paralysis of the extremities, is indicative of a lesion upon the same side of the brain.—LEDDERHOSE.

In collateral hemiplegia (cerebral lesion and paralysis upon the same side of the body) there is greater respiratory activity upon the side of the chest corresponding to the paralyzed muscles.

In contralateral hemiplegia (cerebral lesion and paralysis upon opposite sides) insufficiency of respiratory motion is noted upon the same side as that of paralyzed extremities, face, and tongue.—ORTNER.

TREATMENT.—Passive movements from the first. Massage. Artificial warmth is essential (pine-wool coverings). Galvanism (not over five milliamperes. Negative stabile, positive mobile).

Faradism is useful in flaccid cases (primary current).

The most important part of treatment is to encourage the patient to make the most of each return of power as it occurs.—L. G. GUTHRIE.

Electrical treatment should not be begun before the end of the third week, and should be limited to faradization for fifteen or twenty days. Then continued current to spinal column (4–5

milliamperes at first, for ten to fifteen minutes) It is often well to substitute electric baths. — DIGNAT.

Paralysis, General Progressive.

General paresis, dementia paralytica, or progressive general paralysis of the insane, presents a train of mental and motor derangements without constancy of order in their development. It is only after the early symptoms resembling neurasthenia have existed for some time that their persistence suggests the actual condition. There may be headaches of erratic nature, word blindness, stuttering or slurring of words, word deafness, overacute hearing, tremors of tongue or of facial muscles.

While more frequent in brain workers, it is not confined to any class or social stratum. It is more frequent in men than in women and between the ages of thirty and fifty, and generally in syphilitic subjects.

DIAGNOSIS.—The most pronounced early symptom is an alteration of the mental personality.

A man previously of cheerful disposition becomes the victim of causeless depression or grows irritable and excitable. The deepest depression follows upon the most trivial causes. Failure of memory, especially for recent events, becomes noticeable, and careless, indolent, and altogether unusual habits are formed.

The most important early symptoms, according to C. L. Allen, are unequal size and altered reaction of the pupils, abnormality of reflexes, especially of the knee jerk, disturbances of speech and handwriting, and paretic seizures. There is occasionally intense pruritus.

DIFFERENTIATION. Neurasthenia with pronounced cerebral symptoms may simulate paresis. A constitutional neurotic history, perhaps extending back to childhood, may be elicited. There is absence of true mental failure. There is no alteration of the pupils.

Paralysis agitans has clear intelligence and peculiar gait.

Chronic alcoholism may resemble very closely general paresis in its symptomatology; the same vertigo, sleeplessness, and tremor may be present. Epileptiform attacks and the alteration in speech and writing may exist in both. Withholding alcohol and observing the case for a time may make a decision possible.

From cerebral syphilis the diagnosis may be extremely difficult. A history of infection, sudden onset, and early development of paralytic symptoms, irregularity in the manifestations, severe headache at night, absence of delirium of the expansive form, and improvement under treatment, all favor the specific affection. The fact that a large percentage of paretics give a history of syphilis complicates the subject decidedly. Seizures of convulsive nature and disordered sleep are common to both.

The Argyll-Robertson pupil (which fails to react to light while reacting for accommodation, with inequality in the size of the pupils) is a symptom common to paresis and tabes.

The delusions of grandiose nature in paresis differ from those in paranoia, in that in the former the subject is too dull of intellect to enter into argument, while in the latter he can sustain with more or less sound reasoning the points he makes.

In multiple sclerosis there is a more characteristic "intention" tremor. In brain tumor, eye symptoms, including choked disc, are more likely to be found. In cerebral manifestation of chronic lead poisoning we have other symptoms and history pointing to the cause.

PROGNOSIS is unfavorable, though the length of time before the fatal ending may be a number of years.

TREATMENT.—Most patients having a history of lues behind them require energetic specific medication. Mercurials may best be given by injection or inunction, and the iodides in gradually increasing dose by the mouth.

PROPHYLAXIS may be best accomplished by increasing our

Knowledge of how to eradicate syphilis from the system in its early stages, and by checking the dissemination of this disease.

In the depressed form, change of scene, travel.

In the stages of excitement and exaltation, quiet surroundings, sedative remedies, bromides, chloral, etc., in sufficient doses to maintain the nerves in a quiet state and permit sleep.

Lumbar puncture affords temporary relief from pressure symptoms in over fifty per cent of cases submitted to operation.

—BABCOCK.

In the first and second periods:

R Auri et sodii chloridi.....0.001 mgm.

For one pill. From two to thirty daily.

—BOUBILA.

Paralysis, Infantile Spinal.

Poliomyelitis anterior or myelitis of the anterior horns, has a characteristic sudden onset. It affects children, usually under three and from this up to five years of age, who were previously in good health.

Just before the attack there may be feverishness, headache, perhaps pain in the limbs. Convulsions are rare. The paralysis, which may affect many muscles at first, subsequently becomes restricted to certain groups. It reaches its climax within twenty-four hours. The limbs of the lower or upper extremity or one in each may be the seat of the paralysis.

Pain may be an early symptom, though sensory disturbances are usually absent and the intelligence is not affected.

DIAGNOSIS is attended with little or no difficulty. The paralyzed limb is flaccid with absence of reflex. There is rapid wasting of the patient, whose muscles give reaction of degeneration. The mental state remaining undisturbed points unmistakably to disease of the anterior horns.

DIFFERENTIATION.—In paralysis due to injury at birth the brachial-plexus and facial-nerve distributions suffer. That due

to diphtheria shows difficulty in swallowing with regurgitation of food by the nose. That due to measles is paraplegic and there is the history to guide.

In rachitis there is pseudo-paresis of somewhat similar nature but not a true paralysis. Other signs of rachitis, including hyperæsthesia and much sweating, will be sufficient for the differentiation.

From peripheral neuritis, by the absence of nerve pains and nerve tenderness. Choreic paralysis has characteristic movements.

Paralysis of sudden onset, following the slightest traumatism and attended with great pain, is distinguished from that due to partial dislocation of the head of the radius by the absence of the pathognomonic sign of the latter, viz. impossibility of supination.

Infantile Hemiplegia.

Limbs rigid.
No reaction of degeneration.
Arm and leg of the same side affected.
Bladder and rectal disturbance.
Atrophy of all muscles affected.
Atrophy late.
Mental disturbance.
Reflexes exaggerated.

Infantile Spinal Paralysis.

Limbs flabby.
Reaction of degeneration.
Arm, and leg of opposite side, as a rule.
None.
Of some only.
Early.
None.
Lost.

—M. ALLEN STARR.

Acute atrophic spinal paralysis of the adult is a very rare condition, chiefly to be differentiated from multiple neuritis. The diagnosis is the same as that given for the infantile form.

There is, however, more commonly vomiting; head symptoms are less marked and resulting deformities less conspicuous.

PROGNOSIS is unfavorable for complete and lasting recovery, though improvement is often very great. Deformities, such as kyphosis, lordosis, scoliosis, knock knee, rigid joints, and distorted extremities, may result. The paralysis abates in the inverse order to that in which it began. The limb last involved

will be the first to show improvement. Landry's paralysis, which is infrequent in childhood, does not present the same febrile and trophic manifestations.

TREATMENT.—*If an early diagnosis has been made, anti-febrile measures may be taken and cold applied along the spine.*

When paralysis occurs, wrap the child in cotton wool and put at absolute rest.

After the acute stage, galvanism; the large sponge electrode covering the area supposed to be implicated, the opposite pole being applied to the paralyzed parts.

To keep up nutrition, faradization, massage, baths.

For contractures and relaxation of muscles, orthopædic appliances.

Keep in quiet room; give small doses of antipyretics; cold applications and mild counter-irritants over the affected portion of the spine; small doses of calomel.—COURTNEY.

Paralysis, Infantile Spastic.

This is a congenital paraplegia, affecting all four extremities, but especially the lower. It occurs in those of premature birth. The term "Little's disease" would appear to include not only conditions arising from asphyxia neonatorum, but also instances of general rigidity occurring at or shortly after birth.

The following types are distinguished by Massalongo:

(1) General spastic rigidity; (2) paraplegic rigidity; (3) bilateral spastic hemiplegia; (4) bilateral athetosis; (5) congenital spastic chorea.

Convulsions may occur soon after birth and subsequent lack of intelligence may be noted, amounting at times to a condition of idiocy.

DIFFERENTIATION.—Spasmodic tabes is distinguished by being an affection of adolescence and one which tends to grow worse.

TREATMENT.—Since syphilis may be an etiological factor, a course based upon this presumption may be found to give the best results.

Massage, cod-liver oil, and calcium lactophosphate. Injection of strychnine into the muscles.—BARTHOLOW.

Paralysis, Periodic.

Paroxysmal, complete paralysis in several members of a family, of hereditary nature.

Paræsthesia may precede the onset. After almost complete paralysis lasting perhaps several days there is marked perspiration followed by slow recovery, beginning in the head muscles.

PROGNOSIS.—It is a life-long affection.

TREATMENT.—As the attacks often follow hearty eating, these subjects, especially children, should be warned against overfilling the stomach.

Paralysis, Primary Spastic.

This primary lateral sclerosis is a chronic degenerative process affecting the cord. There are loss of motor power, spasmodic contraction of muscles, exaggerated reflexes, and a peculiar gait, the result of rigidity and spasm.

DIAGNOSIS.—The affection may be of congenital origin, and here the fingers are widely separated and in attempts to grasp an object go through a series of irregular movements. The foot drags and as the toe catches spasmodic contraction is excited.

DIFFERENTIATION.—Absence of wasting, exaggeration of patellar reflex, ankle clonus, the Babinsky reflex, and the peculiar rigidity of muscle distinguish it from pseudo-hypertrophic paralysis. In the latter, too, impairment of locomotion increases, while in this affection it decreases.

From locomotor ataxia, by the lack of painful crises, shooting pains, eye symptoms, and the condition of the reflexes.

From hysterical paralysis, by the spasmodic rigidity and exaggerated reflexes, and the lack of stigmata of hysteria.

Parotitis.

Mumps, or epidemic parotitis, is more likely to be confounded with an acute swelling of the lymphatic nodules beneath the ear and behind the ramus of the jaw than with any other process. The latter, however, presents a tumefaction which does not extend forward toward the zygomatic arch. There is less pain on chewing; it is not intensified by sour substances; the swelling is smaller, comes on less abruptly, and does not tend to involve the opposite side.

The lobe of the ear corresponds to the centre of the swelling in mumps, while in enlarged lymph node the tumefaction is located farther down and backward. The lobe of the ear is elevated, and the tip of the finger can no longer be inserted in the groove behind it. The subsequent course may have to be relied upon to clear up the diagnosis when the parotid has escaped involvement and the sublingual and submaxillary glands are alone implicated. Parotitis not of epidemic nature and not going on to suppuration is reported by W. S. Morrow as occurring in pelvic disease.

In the symptomatic form evidences of suppuration are usually soon manifest. It may be a sequel of influenza.

PROGNOSIS is good, but a severe form of nerve deafness may result. In rare instances the ovaries, labia majora, or breasts may swell.

TREATMENT.—Avoid exposure, which, in the case of boys, may favor metastasis to the testes. Mild cathartics. Liquid diet.

R Tinct belladonnæ,

Tinct. aconiti

Tinct. opii. ññ 3 iv.

M S Apply several times daily over the swelling with the finger tips or a camel's hair pencil

R Ichthyol,

Plumbi iodidi ññ gr xlv

Ammonii chloridi gr xxx.

Adipis ʒ i

M. S. Apply three times daily and cover with a cotton-wool dressing

—TROUCHET.

For relief of pain and swelling and to ward off nerve deafness, jaborandi.—DUNDAS GRANT.

℞ Olei hyoscyami,
 Olei anthemidis.....āā ʒi.
 Vini opii (Sydenham's laudanum)..... ʒi+ʒij
 M. S. Apply and cover with cotton.

As mouth wash and to irrigate the ear :

℞ Thymol..... gr. iv.
 Acidi carbolic..... gr. xv.
 Olei eucalypti..... ʒ cl.
 Aquæ..... Oij.
 M. S. For local use.

In symptomatic parotitis, poultices, fomentations; incision when suppuration. General stimulation and tonics.

Turpentine is said to be a specific.

Internally :

℞ Sodii salicylatis..... gr. lxxv.
 Sodii benzoatis..... gr. cl.
 Syr. aurantii flor..... ʒi.
 Aquæ tiliæ (linden water)..... ʒiv.
 M. S. Teaspoonful t.i.d.

Pericarditis.

Friction fremitus, though not always present, may be detected by palpation, especially in the fourth intercostal space as the patient leans forward. Over the same area is heard on auscultation a friction sound described as a grating or scratching and as though close to the ear, especially while the patient sits or stands. The impression is made by this to-and-fro rubbing sound that it is superadded to the normal heart sounds. It is quite frequent during the course of pneumonia.

DIAGNOSIS.—Scarcely any affection is more commonly overlooked. The symptoms are masked by the primary disease, and the diagnosis rests chiefly upon physical examination.

The friction sound of acute pericarditis without effusion is apt to be looked upon either as a pleural friction or as an organic heart murmur, especially that of a double aortic affection.

When it is found not to be transmitted, aortic disease may be thrown out of question.

The absence of pleuro-pneumonia and phthisis helps us to exclude a pleuro-pericardial sound. It is apt to be decreased on deep inspiration, though it may be increased, and is uninfluenced by posture.

Pericarditis with effusion produces prominence in the heart region, in children especially, and the impulse given on palpation is often in proportion to the extent to which the effusion has gone. If effusion is small there may be no symptoms. Upon applying the ear or the stethoscope the friction sound before present is found to have disappeared. According to the direction of the pressure exerted by the fluid, we may find dyspnoea and cough, dysphagia, aphonia, and alteration in the heart beat. Besides pressing down of the liver, dulness over the sternum and dulness in the fifth intercartilaginous space upon the right side (Rotch's sign), we may find, in pericardial effusion of considerable extent, tubular breathing below the right mammary region as well as at the outer side of the angle of the scapula upon the left side.

The diagnosis is rendered probable by the presence of such predisposing causes as gout, rheumatism, chronic nephritis, scorbutus, and diabetes.

Pulsus paradoxus is significant of the presence of pericardial adhesions, or, rather, of the dilatation that succeeds the adhesions. The pulse is small and feeble during inspiration (may disappear), assuming greater strength during the period of expiration.—MISSEK."

The symptoms arising from pericardial adhesions as well as the physical signs are largely those of preponderating hypertrophy, or dilatation in a given case.

An early sign is a noisiness of the second sound upon the left side of the sternum, preceding the friction by from one to three days.

Chronic adhesive pericarditis may result from the acute.

Visible retraction of the back in the region of the eleventh and twelfth ribs, especially upon the left side, coincident with cardiac systole, is a symptom of decided import in this condition.—WALTER BROADBENT.

The existence of pulsus paradoxus, retraction of the apex during systole, and a swelling of the veins of the neck during inspiration make the diagnosis of concretio pericardii or adhesive pericarditis practically positive.

DIFFERENTIATION.—Dilatation of the heart is the condition most likely to be mistaken. The dulness does not extend upward in dilatation unless the right auricle is enlarged. The area of dulness, too, is of square outline in dilatation, while in effusion it is pear shaped with the apex pointing upward, and the heart sounds over this area are muffled.

The right lower angle of the pericardial dulness extends to the right (outward), and is not curved inward toward the sternum as is the normal cardiac dulness.—EWART.

The area of dulness is commonly that of the normal heart equally extended in all directions.—F. C. SHATTUCK.

In other words, the dull area extends beyond the apex beat if the latter can be felt. In dilatation this is not so. At the angle of the scapula as the patient sits there is a small area of dulness over which bronchial breathing is heard. If the patient now bends forward, the physical signs of consolidation, including increased fremitus, disappear, but return when the previous position is resumed. If absorption takes place, the friction sound may return.

In chronic aortitis the second sound is more marked, louder, and more metallic upon the right side. Anæmic and extracardiac sounds must also be excluded.—JOSSE RAND.

Pericardial are distinguished from endocardial murmurs by their quality (rubbing, grating, creaking), their superficial character, their limitation to a small area, their changeableness in

position and intensity from hour to hour, their greater intensity when the patient leans forward or fills the lung, or, when the heart wall is pressed upon, their want of synchronism with the heart sounds.—DELAFIELD.

Hydropericardium is excluded chiefly by the history.

PROGNOSIS.—Based upon one hundred cases, of which forty-three were fatal, the prognosis must be considered grave.—
G. SEARS.

There may be collapse of the cervical veins occurring during diastole.—FRIEDREICH.

That of alcoholism, pneumonia, and chronic Bright's is much more serious than that of rheumatism.

TREATMENT.—Rest, revulsives, relief of pain by morphine.

If occurring during an attack of acute rheumatism apply a blister over the precordial region.—BILLROTH.

Salicylates do not seem to prevent the occurrence of pericarditis.—SEARS.

With effusion :

℞ Infusi digitalis ʒ iv.
Potassii acetatis ʒ ij.
Spir. ætheris nitrosi ʒ ij.
Aquæ cassiæ ʒ iss.
M. S. ʒ ss. every fourth hour.

—KILGOUR.

If much pain :

℞ Ext. aconiti fld. ʒ ss.
Vini antimonii ʒ ss.
M. S. Gtt. x.-xv. t.i.d.

—RUST.

Hahn's diuretic liniment :

℞ Olei terebinthinæ ʒ i.
Vitelli ovi No. ij.
Aquæ menthæ piperitæ ʒ xx.
M. S. Rub over the kidneys t.i.d. Flannel around the loins.

—KRAUS.

℞ Tinct. veratri viridis,
 Tinct. opii ℥ i.
 Sodii bicarbonatis ʒ ij.
 Sacch. albi ʒ iv.
 Aquæ q.s. ad ʒ vi.
 M. S. Tablespoonful every two or three hours.

—J. L. LYNCH.

Paracentesis.—Tapping the pericardium has now been resorted to in one hundred cases, with only one death reported from the operation.

If the fluid is purulent, drainage is required.

The puncture may be made in the left costo-xiphoid angle, a moderate-sized cannula and trocar with switch attachment being thrust upward and backward. Blisters are of no use.
 —F. C. SHATTUCK.

Peri-Encephalitis, Acute.

The distinction between this condition and acute mania is difficult. The former has higher fever and the symptoms are all of a more intense nature.

Septic peri-encephalitis is a condition often present in so-called puerperal insanity.

DIFFERENTIATION.—In confusional insanity evidences of confusion are early present and hallucinations are more common and more pronounced.

PROGNOSIS.—Unfavorable both as for life and for recovery with unaffected mind.

TREATMENT.—Phlebotomy in robust, full-blooded subjects. Blisters. Cold to the head. Drastic cathartics. Ergotin, gr. xv. hypodermatically every eight hours.—SALIVETTI.

Quiet restraint, concentrated food, stomach tube if necessary. Hyoscinae hydrobromas, gr. $\frac{1}{5}$. Repeat every six hours.
 —WOOD AND FITZ.

Peritonitis.

The signs of inflammation of the peritoneal covering of the intestines vary as it occurs in perforation, rupture of abscess into the peritoneum, or as part of a general infectious process. In the latter the fact of abdominal distention following rapidly upon persistent and obstinate vomiting gives us one of the most positive indications for this diagnosis.

DIAGNOSIS.—The onset of acute peritonitis is chiefly characterized by pain, abdominal tenderness, and fever. The early tympanites may later on give way to a dull percussion note.

The legs are usually drawn up and the shoulders elevated. Respiration is often of the costal variety. Coughing is restrained.

The affection may exist without pain and without tenderness.—DELAFIELD.

Tuberculous peritonitis, when it is confined to the lower surface of the diaphragm, may not show tenderness on pressure. It commonly occasions secondary pleuritis by traversing the diaphragm, and when it does so it furnishes a strong point in favor of the tuberculous origin.

Ascites is a common symptom.

A circumscribed erythematous zone about the umbilicus is pathognomonic.—F. P. HENRY."

DIFFERENTIATION.—Various forms of colic at times simulate closely peritoneal inflammation. Renal colic is more sudden in onset, more localized in the kidney region of one side, and is soon diagnosticated by urinary analysis.

Gall-stone colic is likewise more restricted in area; fever is slighter or entirely absent; gastro-intestinal pains are relieved by pressure, while those of peritonitis are intensified.

In acute intestinal obstruction vomiting may be omitted, the pain is more paroxysmal and more localized, while the pulse gives an indication by an occasional slow heart beat. The fever,

too, is often not pronounced in the early stages of obstruction. Difficulty is augmented when the conditions coexist. Not infrequently obstruction leads to peritonitis with or without perforation. The origin of general peritonitis in a diseased appendix must be constantly kept in mind, and, in women, the presence of diseased adnexa must be remembered as a possible source.

Typhoid fever is to be differentiated from the comparatively painless tuberculous peritonitis. Peritonitis may complicate typhoid with perforation.

In salpingitis, vomiting and pronounced distention are absent. The knowledge of a plausible cause for the existence of peritonitis greatly simplifies matters. When other means, including the use of the catheter and the use of the aspirating needle to determine the nature of the exudation fluid, have been exhausted, resort may have to be had to exploratory laparotomy.

Perforative peritonitis of gastric ulcer may be distinguished from gastric ulcer itself by the sudden and violent onset, the severe pains being located in the epigastrium, tension of the upper part of the abdomen, and absence of nausea and vomiting.

In pelvic cellulitis retraction of the thigh is an important symptom never seen in pelvic peritonitis. Phlebitis and enlargement of the limbs are also present. An infiltration into the lateral wall of the vagina and continuous with the lateral vaginal vault is likewise a highly characteristic sign.—VAN DE WARKER.

Differentiation is also to be made from embolism of the superior mesenteric artery, rupture of an abdominal aneurism, acute pancreatitis, and so-called hysterical peritonitis.

PROGNOSIS.—A week to ten days is the usual limit in acute general peritonitis. Early collapse and coffee-ground vomit portend an early and bad ending. Regurgitant vomiting is to be placed among the unfavorable signs preceding death; likewise a rapid rise in the pulse rate. Among unfavorable indica-

tions are to be reckoned thready or gaseous pulse, the inability to secure bowel motion, persistent high temperature with lividity. Recovery may follow the tuberculous form.

TREATMENT.—The danger arising from absorption of toxic products into the system calls for assistance in elimination. Intestinal drainage, at the present day, holds the important place formerly occupied by opium. Saline purgatives find their indications in an occluded intestine and especially if irritating food is suspected as a causative factor. If perforation is the cause purgatives should be omitted.

In suitable cases, deodorized tincture of opium may be given by the mouth, but at least the alternate dose should be sulphate of morphine (gr. $\frac{1}{4}$ to $\frac{1}{2}$) hypodermatically. Enough opium may be given to produce continuous decided narcotism, but the patient may be carefully watched by an attendant and the drug suspended whenever the narcotic symptoms become pronounced.—H. C. WOOD.

In giving opium preparations the breathing should be the guide and respirations should not be permitted to fall below twelve to the minute.—DELAFIELD.

In advanced peritonitis laparotomy and irrigation give such uniformly fatal results that it is safer to accept the slim chances of recovery under purely medical care.—RICHARDSON.

The best treatment is by the administration of large doses of saline cathartics (sulphate of magnesium, 3 ii. every two hours until the bowels have been opened eight or ten times).—KEEN.

All laxatives by the mouth are to be avoided as long as there is no possibility of the alimentary canal being the source of peritonitic symptoms.—H. R. FITZ.

In tuberculous peritonitis, mercurial ointment to the abdominal surface, especially in children.—FAGGE.

Applications of tincture of iodine. If pressure symptoms arise, tapping. Laparotomy seems of itself alone to be beneficial probably because air and light are thus admitted to the peritoneal cavity.

Evacuate all fluid by incision. The most favorably reported cases are those in which an acute or subacute inflammation with ascites has been operated on simply by abdominal section with evacuation and immediate closure.—ABBE.

In grave cases with distention intestinal incision and drainage.—MIXTER.

In localized pelvic peritonitis, operative treatment (preferably by the vagina) after saline cathartics and hot douches.

Of vermiform-appendix origin, and when of other origin resulting in abscess, and in general septic peritonitis, operation is called for.—COLE.

Peritonitis, Chronic.

Instead of ending fatally within a limited number of days, the inflammation may pursue a chronic course and death may occur only at the end of a number of weeks. Or circumscribed areas of inflammatory exudation may become encapsulated, as it were, and communications be established through which the contents may escape into the adjacent organs. There is almost always some preceding visceral disease, such as tuberculosis or cancer.

Perihepatitis is a form of localized inflammation frequently assumed by peritonitis and associated with ascites from compression of the liver.

Perleche.

This contagious affection of the lips and regions about the mouth, with fissuring at the commissures, is generally seen in epidemic form in schools and institutions; also in infants. It is distinguished from eczema and syphilis by the above facts and by the greater amount of swelling present, followed by the development of a white membranous covering over the ulceration. It runs a course of about three weeks and relapses are not infrequent.

TREATMENT.—At first remove crusts if present and apply to commissures of the lips weak nitrate-of-silver solution.

Or—

℞ Acidi borici.....	1
Petrolati.....	10

Subsequently:

℞ Cupri sulphatis	0.20 cgm.
Ext. thebaici	0.02 cgm.
Petrolati.....	80 gm.

And wash morning and night with:

℞ Aluminis.....	8 gm.
Spir. camphorae.....	10 “
Aquæ destillatæ.....	80 “

Or—

℞ Hydrargyri soziodol.....	1
Petrolati.....	100

Or—

℞ Potassii permanganatis.....	1
Aquæ	1,000

Or—

℞ Methylene blue	1
Water	80

S. Pencil on.

Nursing-bottles should receive unusual care.

Pertussis.

Whooping-cough is of paroxysmal nature with succeeding spasmodic closure of the glottis, which is attended with an inspiratory noise, from which the name is derived. In the first stage the child's condition is scarcely to be distinguished from that of ordinary acute catarrh with abundant discharge from the mucous surfaces. Often slight bronchitis in the larger tubes can be made out. The cough is dry, but becomes more frequent and occurs in more distinct paroxysms. A peculiar puffiness of the face, especially about the eyes, is frequently to be noted.

DIAGNOSIS.—It is in the second stage that the characteristic ‘whoop’ occurs. This is a crowing inspiration following a succession of expiratory efforts. The attack of coughing differs

from that of ordinary colds by the marked redness of the face, flow of tears from the eyes, and discharge from the nose. If the child is old enough to be about the room, it clutches some object or piece of furniture when the attack comes on, perhaps burying its face during the repeated expulsive efforts, which often end in an attack of vomiting. If the child has lower incisors there will often be an ulceration at the frenum of the tongue. It is not uncommon in severe attacks and especially in certain epidemics to observe purpuric spots upon the skin especially of the face and upon mucous membranes. Slight hemorrhages may occur in these cases, especially during the access of cough.

The intervals between the paroxysms are at times quite long and sometimes the child appears well between the coughing-fits. Even when there are only two or three attacks during the day the number is apt to be increased at night. When nightly attacks decrease and the general symptoms improve the child is said to be in the third stage.

If in doubt at first, bring on a paroxysm by depressing the tongue.

DIFFERENTIATION is very difficult before the "whoop" has developed and in those instances in which it is wholly lacking, as in very young children.

PROGNOSIS.—The course, usually of six weeks' duration, may be extended for several months. The mortality is chiefly from complication with broncho-pneumonia.

TREATMENT.—Therapy is usually a thankless task. The chief object of treatment must often be to diminish the severity and frequency of paroxysms until the natural course has been run.

R	Belladonna leaves	gr. viij.
	Distilled water.....	3 v.
	Antipyrin	gr. xv.
	Syrup of gooseberry.....	§ i.
M.	S. A teaspoonful every two hours for a child of five years.	

℞ Sulfonal	0.06
Creosoti.....	0.50
Syr. tolutani,	
Aquæ	āā 80

M. S. Two teaspoonfuls every two hours.

℞ Tinct. belladonnæ	3 ij.
Tinct. valerianæ,	
Tinct. digitalis.....	āā 3 i.

M. S. For children under five years of age five to ten drops should be daily administered, increasing within one week to from thirty to sixty drops daily, in divided doses.

Whooping-cough in adults :

℞ Bromoform.....	15 parts.
Tincture of gelsemium	16 "
Syrup of lactucarium	120 "
Powdered gum arabic.....	a sufficiency.

M. S. Three or four teaspoonfuls to be taken in the course of a day.

—BANCOCK.

℞ Bromoform	gtt. xl.
Green tinct. aconite.....	gtt. l.
Syr. codeine (Br. P.).	3 iss.
Syr. tolu,	
Syr. red poppy.....	āā 3 ivss.
Alcohol.....	3 iiss.

Dose according to age.

℞ Antipyrin.....	gr. ss.
Sodii bromidi	gr. ij.

M. S. Every two hours to a child of eight months.

To a child of from two and one-half to four years:

℞ Antipyrin	gr. ij.
Sodii bromidi	gr. ij.-iiij.

Every two hours.

—KERLEY.

Caution.—Hygroscopic.

For administration by day :

℞ Atropinæ.....	gr. $\frac{1}{100}$ - $\frac{1}{50}$
Morphinæ.....	gr. $\frac{1}{4}$ - $\frac{1}{2}$

S. Every two to four hours.

For the night :

℞ Chloral.....	gr. iiij.-vi
Potassii bromidi.....	gr. v.-x.

S. Twice during the night.

In this way the patient does not become accustomed to either medicine and the dose does not have to be increased.

Do not give antipyrin as a routine practice but reserve it for distinct indications—hyperpyrexia, pulmonary congestion, or pneumonia—when it can be combined with infusion of digitalis, as also in nervous excitement and during dentition.

During an intercurrent pneumonia the cough of pertussis often subsides.—S. S. JONES.

Tussol (antipyrin mandelate) is preferable to antipyrin. The dose is the same.—REHN.

℞ Tinct. belladonnæ	10 gm.
Phenacetin.....	5 "
Spirit. frumenti.....	15 "
Ext. fol. castanæe fld.....	60 "

S. For infants of one year, ten drops. For children of ten years, one drachm every two to six hours.

—LANCASTER.

℞ Phenocoll hydrochlorate,	
Antipyrin	ãã gr. viiss.
Potassium bromide.....	gr. vi.
Syrup of bitter orange peel,	
Orange-flower water	ãã gr. 3 vi.

M. A child eight years old may take the whole amount, in four doses, in the course of twenty-four hours.

—GUAITA.

℞ Chinoidine tartrate	1 part.
Distilled water,	
Syrup.....	ãã 75 parts.

M. S. A tablespoonful every three hours.

—MARIUS MARTIN.

Ouabain, gr. $\frac{1}{1000}$ to $\frac{1}{100}$ in water every three hours for a child of five years.

Caution.—Gr. $\frac{1}{65}$ hypodermically is fatal in the adult.

℞ Coccionellæ subt. pulv.....	0.05-0.2
Ammonii carbonatis.....	1-2
Syr. aurantii.....	20
Aquæ destillatæ	q.s. ad 100

M. S. To be shaken. Teaspoonful every two hours.

—NAEGELI-ÅKERBLÖM.

R Antipyrin 8
 Resorcin..... 1
 Aquæ menthæ piperitæ 10
 Aquæ destillatæ 100
M. S. Three to five teaspoonfuls during the day; on the first day three tea-
 spoonfuls, on the second four, and on the third five.

R Powdered belladonna root..... gr. $\frac{1}{2}$
 Dover's powder gr. ss.
 Sublimed sulphur gr. viij.
 White sugar gr. viij.
M. S. For one dose from two to ten times daily, according to the age of
 patient and the effect produced.
 —SÉE.

R Bromoform gtt. xl.
 Mucilage of gum arabic,
 Syrup of tolu.....āā 3 vij.
M. S. Shake before using. A teaspoonful for a dose.
 —LATHAM.

R Pulv. rad. belladonnæ..... 0.1
 Sodii bicarbonat 0.4
 Sacch. albæ 2.0
M. ft. chart. No. x. S. One powder q. 3 h.
 —WIDERHOFER.

R Antipyrin..... gr. ss.-i.
 Ammon. bromid gr. i.-ij.
 Ammon. muriat..... gr. i.
 Syr. simp..... q.s. ad 3 i.
S. At a dose every three hours.
 —J. MADISON-TAYLOR.

R Bromoform 1.75
 Tinct. aconiti radicis..... 1
 Tinct. nucis vomicæ 0.75
 Tinct. grindeliæ robustæ 0.75
 Tinct. bryoniæ..... 0.50
 Syr. opii ext. (Fr. Cod.)..... 50
 Syr. aurantii corticis am 105
 Spir. vini rectificati (90 per cent)..... 25
 Dissolve the bromoform in the alcohol and tinctures, add the syrup, and
 mix. A soup-spoonful contains six drops of bromoform.
S. For a child a teaspoonful at the time of access mixed with twice its bulk
 of water.

—ROBIN.

Caution.—The last two doses in the bottle of bromoform
 mixture should not be given, as toxic effects have followed in
 several instances.—H. E. TULEY.

- ℞ Spir. chloroformi ℥ ss.
 Ammonii bromidi ℥ i.
 Syr. simplicis q.s. ad ℥ ij.
 M. S. Teaspoonful every two, three, or four hours.

—STIDHAM.

- ℞ Codeinæ sulphatis gr. i.
 Acidi carbolicæ puri gr. viij.
 Syrupi limonis,
 Syrupi simplicis āā ℥ ss.
 Glycerini puri ℥ i.
 S. A teaspoonful every two or three hours.

—HUGHES.

- ℞ Hydrogen peroxide (10 vols.) ℥ vi.
 Glycerine ℥ iv.
 Water ad ℥ iij.
 Dose, half a fluid ounce, in a wineglassful of water, five or six times a day.

—RICHARDSON.

- ℞ Dried thyme 5 parts
 Boiling water 12 "

M. Infuse for ten minutes, sweeten to the taste, and give a tablespoonful every hour.

- ℞ Thyme 100
 Aquæ 700
 M. ft. infus. et adde:
 Syr. althææ 50
 M. S. ℥ i. eight to twelve times daily.

—MOEVUS.

- ℞ Olei succini ℥ x.
 Pulv. acaciæ ℥ i.
 Syr. aurantii flor ℥ ij.
 Olei anisi ℥ iij.
 Aquæ q.s. ad ℥ i.
 M. S. Teaspoonful every four hours.

—MURRELL.

- ℞ Tinct. digitalis ℥ xvi.
 Antipyrini gr. xxxij.
 Tinct. opii camphoratæ ℥ ij.
 Syr. tolutani ad ℥ ij.
 M. S. ℥ i. t.i.d. for a child two years of age.

—KOPLIK.

Or—

℞ Bromoform	48 gtt.
Sweet-almond oil	20 gm.
Powd. tragacanth.....	2 gm.
Powdered acacia.....	4 gm.
Cherry-laurel water.....	4 gm.
Distilled water.....	to make 120 gm.

The bromoform should be well shaken with the almond oil and then the other ingredients added. A teaspoonful of the mixture contains two drops of bromoform. Give four drops in twenty-four hours for each year of age.—MARFAN.

Rectal injections containing two litres of carbon dioxide mixed with a few centigrams of pyridin, repeated after each access of cough, or at intervals of a few hours. The worst cases yield to treatment in a week.—BERGEON.

Or, quinine, one centigram for each month of age and ten for each year.—FISCHER.

Local.—Introduce into the back of the mouth a small tampon of cotton saturated with a 1 to 1,000 solution of corrosive sublimate, and press it against the lower part of the tongue in such a way that the liquid will bathe the epiglottis and the neighboring mucous membrane. One of the greatest benefits derived is rapid cessation of the vomiting. The patients lend themselves very readily to the treatment and become rapidly accustomed to the introduction of the tampon. Never make more than one application upon the same day.—RABINSCHER.

Apply to the glottis with a fine sponge every four hours and once or twice during the night:

℞ Resorcini puri.....	2-3
Aquæ destillatæ	100

M.

—ROSKAM.

To abort an attack :

℞ Resorcini	10
Aquæ	100

℞. Apply to the perilaryngeal mucus membrane every two or three hours.

—MONCORVO.

Insufflations into the nasal fossæ five times daily of:

℞ Powdered benzoin,	
Bismuth salicylate.....	℥ 10
Quinine sulphate.....	3

—MOIZARD.

℞ Tr. belladonnæ	gtt. xxxij.
Acid. carbolic (C. P.).....	gtt. viij.
Ammonii bromidi	3 ij.
Potassii bromidi.....	3 vi.
Aquæ menthæ pip	℥ iiij.

M. S. Spray this in child's throat every two hours.

—CALDWELL.

℞ Acidi carbolic	0.08
Sol. menthol (4 per cent)	20
Sol. cocaine (3 per cent).....	15
Aquæ laurocerasi	60

S. Spray the throat every hour.

—SCHMID.

Nasopharyngeal insufflations:

℞ Quininæ sulphatis	4 parts.
Resorcini.....	1 part.
Pulv. sacch. albi.....	25 parts.

Five or six times daily.

—LAURIAUX.

For inhalation, ozone, two to four times daily, for from ten to fifteen minutes each time.—LABBÉ AND OUDIN.

Hypersulphurous baths, 75 cgm. of polysulphate of potassium per litre being employed. The temperature of the bath should be 36° C. and the duration twenty-five to forty-five minutes, according to the age. Fifteen baths are, at most, required.—JOSSET.

℞ Ichthyol	1
Glycerin.....	3

M. S. As a local application to the nares.

Pharyngitis, Acute.

Catarrhal inflammation of the pharynx or angina simplex may be preceded or not by catarrhal process of the contiguous parts. The constitutional disturbances are slight but may include a moderate rise of temperature.

The diagnosis is of importance in distinguishing this mild affection from the beginning diphtheritic or deeper-seated phlegmonous inflammations. Both may be excluded if the temperature remains low and the other symptoms do not become rapidly aggravated.

Retropharyngeal abscess developing in young children gives a rigidity to the neck associated with fluctuation in the posterior pharyngeal wall with marked difficulty in swallowing and difficult respiration.

Pharyngitis, Chronic.

There is here a dryness of the throat leading to frequent swallowing. An expectoration of whitish viscid mucus occurs in the early morning. Inspection shows the posterior pharyngeal wall dry and shiny and the vessels injected.

℞ Tinct. aconiti..... gtt. xv.
 Acidi hydrocyanici diluti..... ℥ xx.
 Liq. ammonii acetatis ℥ ij.

M. S. Teaspoonful every fifteen minutes for four doses and then every hour or two hours.

—DELAFIELD.

When there is ulceration :

℞ Tinct. iodi,
 Tinct. opii āā 3 i.
 Aquæ ℥ vi.

M. S. Gargle ; shake well. Use thrice daily.

—ELLIS.

For a child :

℞ Tinct. ferri chloridi ℥ xxiv.
 Potassii chloratis..... gr. xxiv.
 Syr. zingiberis..... ℥ i.
 Aquæ q.s. ad ℥ iij.

M. S. 3 i. every two hours.

—POWELL.

In the chronic form, proper outdoor exercise and indoor ventilation. Avoidance of excesses.

℞ Argenti nitratis..... gr. xl.
 Aquæ destillatæ ℥ i.

M. S. Paint over the shiny surface.

To relieve excessive dryness, ext. cubebæ fld., gtt. x. on sugar three times daily.—SEILER.

In acute form as a lozenge :

℞ Ext. eucalypti gr. xxx.
 Sodii biboratis..... gr. x.
 Pulv. pimentæ..... gr. viij.
 Ext. glycyrrhizæ 3 iiss.
 M. ft. massa in trochisci No. xxx. div.

—BOSWORTH.*

When cough, with raw and irritable throat :

℞ Codeinæ gr. v.
 Ext. catechu..... gr. xxx.
 Ext. glycyrrhizæ..... 3 iiss.
 Ft. massa in trochisci No. xxx. div.

—LEFFERTS.

When secretions are thick and tenacious :

℞ Ammonii muriatici gr. xxx.
 Pulv. ipecacuanhæ..... gr. ij.
 Pulv. capsici..... gr. ss.
 Ext. glycyrrhizæ..... 3 iiss.
 Ft. massa in trochisci No. xxx. div.

—LEFFERTS.

In the atrophic form :

℞ Pilocarpinæ muriat gr. ij.
 Aquæ,
 Glycerini..... ãã ʒ i.
 M. S. 3 i. t.i.d.

—SAJOUS.

℞ Sodii biboratis..... 10 grm.
 Aq. laurocerasi 25 "
 Glycerini..... 15 "
 M. S. To apply locally.

—VIDAL.

℞ Zinci sulphatis..... gr. x.-xx.
 Aquæ destillatæ..... ʒ i.
 M. S. Apply every two or three days.

—BOSWORTH.*

In chronic rhino-pharyngitis :

℞ Menthol..... 1
 Oil of sweet almonds, or
 Liquid vaseline 10
 Apply locally with a brush.

—HAMON DE FOUGERAY.

- ℞ Sodii bicarbonatis..... gr. vi.
 Potassii iodidi..... gr. xvij.
 Mentholi..... ʒi.
 Petrolati..... q.s. ad ʒi.
 M. S. Locally t.i.d.

*A Spray for Pharyngitis Sicca.**

- ℞ Carbolic acid..... gr. lx.
 Tincture of iodine,
 Tincture of aloes,
 Tincture of opium..... ʒʒ gtt. x.
 Glycerin..... enough to make ʒi.
 M. S. To be used as a spray several times a day.

The Plague.

An isolated instance of the contagious and epidemic affection known as bubonic plague may have so many symptoms in common with typhoid that, were it not for the occurrence of the bubonic swellings in the groins, axillæ, and elsewhere, and the fact that the mind clears as the symptoms develop, one might be led into error. There are cerebral and pulmonary forms as well.

The only characteristic feature of the disease would seem to be the lymphatic-gland swellings, especially those of the groin and armpit, and, in the vast majority of instances, death occurs before this stage is reached.

DIAGNOSIS.—After an incubation of from three to six days the onset is sudden, with vertigo, headache, and a dull, stupid, stricken look, well designated *facies pestilentialis*, due rather to muscular relaxation than to anxiety. The pulse, at first strong, soon grows feeble and very rapid. After a few hours or days there are violent chill, high fever, vomiting, abdominal pain, and perhaps diarrhœa, delirium, and coma. An attack may be of mild character, not interfering with the patient's occupation (*pestis minor*). Carbuncles occur in two or three per cent of the cases. The ocular conjunctiva is usually congested.

Nervous symptoms are among the most constant and important. Insomnia may be obstinate and distressing; memory is defective. A "thick-tongued" manner of speech and a muscular inco-ordination, at times simulating paresis, are noted in many instances.

The Kitasato bacillus is found in the buboes, lymph nodes, and fæces. It is a thick, short rod with rounded ends, sometimes in chains and somewhat motile. It grows readily on blood serum, forming white iridescent colonies within forty-eight hours. In doubtful instances cultures on agar can be made. The bacillus stains more deeply at its extremities.

DIFFERENTIATION *from typhoid* is well shown in the following table, prepared by Surgeon-Captain Hojel, of Bombay:

<i>Plague.</i>	<i>Typhoid.</i>
1. Onset sudden, usually ushered in by a well-marked rigor.	Insidious in onset, may have "chills."
2. Temperature shows a high initial rise in most cases, followed by a marked remission to normal or a little above or below it on second, third, or fourth day.	A gradual rise to end of first week, with slight daily remissions.
3. Pulse large and full at first, peculiarly soft, great want of sharpness in stroke, very compressible at an early stage, and dicrotic; but the dicrotism is not very easily recognized by the finger.	Pulse moderately large, walls of vessels relaxed, beat sharp and short, dicrotism well marked and easily distinguished.
4. Aspect dull, heavy, and apathetic; has a peculiar stricken look	Not so, but patient often has a bright energetic appearance.
5. Eyes dull and muddy looking, conjunctivæ suffused, pupils mostly normal, general flushing of face.	Eyes bright and clear, no suffusion of conjunctivæ, pupils dilated, a circumscribed malar flush.
6. Diarrhœa simple, but very offensive (when present).	Diarrhœa "pea soupy."
7. Delirium and other cerebral disturbance early, and great prostration from the first.	Later, toward end of severe cases.
8. Abdominal distention early, third, fourth, fifth day.	Later.
9. Eruption not readily effaced, a "deep red color, petechial."	Eruption readily effaced, "rose-red color, non-petechial."
10. Severe lumbar pain in many cases.	Slight.

Glandular fever, described by Pfeiffer, and referred to on page 320, might be confounded in name with bubonic fever; but the symptoms differ and the course of the former is much more benign, so that confusion could otherwise scarcely arise. Pneumonia may come into question by reason of a preponderance of respiratory symptoms, and deaths have been attributed to this disease in which post-mortem bacteriological investigations have demonstrated the error. There is a variety of plague in which pneumonia is the primary condition. Alcoholism may be simulated by the speech, stupor, and by the subsequent delirium.

PROGNOSIS.—The malignant form is fatal within twenty-four hours, and in the ordinary form 90 per cent of untreated cases succumb. Serum therapy has reduced the mortality to 50 per cent. Hemorrhages in certain epidemics have given to the disease the name “black death.”

In the early days of the Hong Kong epidemic of 1894 the mortality among the Chinese was 100 per cent; Japanese, 60 per cent; and Europeans, 18.2 per cent.—LOWSON.

PROPHYLAXIS.—To prevent the disease in the other members of a family, inject the serum in all exposed.—ROUX.

Hygiene, pure water, isolation, disinfection of dejections, cremation of dead bodies.—KITASATO.

TREATMENT.—*Yersin serum*, two drachms injected subcutaneously.

Thirty cubic centimetres suffice for a cure. The more advanced the case the more serum is required. Most rapid results are obtained when treatment is instituted early, as upon the first day of the disease, and we may expect better results from more perfected and stronger serums.

As a curative agent it seems to succeed unless begun too late.

For active delirium, cold applications to the head. Hyoscine, gr. $\frac{1}{100}$ hypodermatically, or morphine with atropine.

For the fever, cold spongings, wet pack, cold drinks, or cool baths.

In collapse, ether, camphor, musk, strychnine hypodermatically, and oxygen by inhalation.

As a purgative, calomel, gr. iii.–viii., followed in an hour by saline purge.

In diarrhœa, salol, 0.50 cgm. —JAMES CANTLIE.

Or—

℞ Morphine..... gr. $\frac{1}{2}$
Cocaine gr. $\frac{1}{2}$
Make one suppository.

As a stimulant, strychnine is held in the greatest favor.—
LOWSON.

Local treatment of the inflamed glands:

℞ Ext. belladonnæ,
Petrolati.....℥℥ p. ss.
Apply alone or in conjunction with poultices.

When fluctuation is present, open and establish drainage.

Nutritious food, free stimulation.

Pleuritis.

Although the occurrence of sudden pain in the chest, aggravated by deep inspiration and attended by fever, is usually an indication of pleurisy, physical signs must be depended upon for the absolute diagnosis. The discovery of friction sounds may be looked upon as pathognomonic of “dry pleurisy” or the dry stage. While intercostal neuralgia and pleurodynia may be thrown out, as a rule, because of the febrile symptoms, the possibility of their occurring in a patient who already has fever from some other cause must not be lost sight of.

Sero-fibrinous pleuritis cannot be diagnosticated with certainty until several days after the pain and friction, since the presence of effusion is to be detected only after a sufficient quantity of fluid has been poured out to give physical signs upon which the diagnosis must depend.

DIAGNOSIS.—It is only the effusions of moderate amount which occasion difficulty in diagnosis. The flatness on percus-

tion, displacement of the heart, and especially flatness over the entire lung, make the diagnosis certain. Loud bronchial respiration and bronchophony are heard over this area.

A moderate effusion is distinguished from consolidation of a lower lobe by percussion. The effusion is lowest at the spine and highest at the axillary line, while in pneumonia the dull area has its highest limit near the spine.

In mediastinal tumor there is less diminution in the vocal fremitus, the dulness is more irregular and circumscribed in its upward extension.

In mediastinal pleurisy alone, which is very uncommon, the circulatory disturbances are pronounced. The area of flatness may extend slightly beyond the sternum on the unaffected side.

The differentiation is chiefly from pericardial effusion, but, as Whitney says, it would seem as though the characteristic area of flatness produced by the latter would make confusion impossible.

Diaphragmatic pleurisy presents great difficulties of early diagnosis. It may occur as a result of rheumatism, and pursue a chronic course. The symptoms point rather to abdominal disease, but the respiration is increased beyond the point usual in affections of the abdomen. Certain points of tenderness have been described as characteristic; one at the insertion of the sterno-mastoid, another in the intercostal space along the margin of the sternum at a point on a level with the tenth rib and one-half an inch from the median line.

Aneurism may be simulated by pulsating pleurisy, but the absence of murmur upon pressure and other signs will exclude it.

DIFFERENTIATION.—The chief distinction is to be made between this disease and pneumonia. The absence of chill is a valuable aid, but not an infallible sign, since certain pneumonias may develop without chill. The friction sound comes

early, and, while it resembles the crepitant râle, it is more superficially situated and has an intermittent character, is present during expiration as well as during inspiration, and if confined to one respiratory act alone goes with the expiration, while the crepitant râle is heard only during inspiration. In infants and young children dry pleurisy is said not to exist, but broncho-pneumonia may give signs simulating it. Children from ten to fourteen, according to Holt, may refer pain to the abdomen, while the physical signs are those of dry pleurisy, as in the adult. As adhesions form, the creaking of leather may be suggested by the friction sound carried to the ear. In pneumonia the bronchial breathing is best heard over the area of greatest consolidation, while in pleurisy it is most marked at the borders of the flat areas. The diminished vocal fremitus and vocal resonance are in marked contradistinction to the increase of both of these habitually found in pneumonia.

A most important point is the possibility of changing the outline of flatness by changing the patient's position; this depending upon the alteration in the fluid level. While in elderly persons the cough of pneumonia may be almost nothing, in others the marked difference in the amount of coughing helps greatly in distinguishing pleurisy from pneumonia; in the former it being sharp and teasing, and in the latter requiring great effort to bring up the tenacious mucus.

The so-called "Baccelli sign" consists in our ability to hear the whispered voice transmitted through a serous fluid, while if the exudate be purulent it is not so transmitted. Baccelli says that if the layer is thin and the patient is told to spell a word containing t's and r's, every letter will be heard. In proportion to the fluid's thickness the letters become gradually lost. First the r, then the t sound, and finally all sound conduction disappears.

An especial nasal squeaking tone of voice (ægophony) is not unusual in typical forms of acute pleurisy. A twang-like qual-

ity is by no means rare, particularly at the outer angle of the **scapula**.—OSLER.

Subphrenic abscess with flatness reaching as high as the **fourth** rib in front gives a displacement of the diaphragm, whose **upper** border is invariably level, while that from effusion is **never** so. New growths springing from the convexity of the **liver** produce areas of flatness, which only in rare instances **simulate** the line of flatness in pleurisy.

Empyema can be positively differentiated from serous effusions by means of the exploratory puncture alone, but **intermittent** high temperature after a week or so, followed by a fall of **the** fever to a low point and profuse sweating, should cause us **to suspect** pus. Here the presence of local œdema is a guide of **value**. Hectic fever, often with marked oscillations, may be **absent**, and only the slightest rise of temperature accompany **decided** pus production. By injecting a few drops of a one-per-cent solution of cocaine, the pain of puncture, even in children, **may** be entirely avoided. The needle should be thoroughly **boiled**, and be at least one and one-half inches in length, but **need** not be of larger calibre than the usual hypodermic **needle**. The point of insertion should be above the diaphragm and **well** within the flat area; in children, the sixth intercostal **space** in the axillary line when the pleurisy is on the right side. The etiological variety of empyema is to be determined **absolutely** only by bacteriological examination. If pneumococci are **present**, they are found in chains made up of lanceolate **elements**; while streptococci give chains which are longer and less **rigid**, the individual cocci being round; tubercle bacilli are but **rarely** made out, either by the microscope or by culture, and **inoculation** experiments are required for absolute certainty. If no pathogenic organisms or only staphylococci are found, the **tuberculous** nature is strongly suggested.

PROGNOSIS is good in dry and sero-fibrinous pleurisy, except **when** secondary to some dangerous affection. The effusion

recurring after aspiration renders the ultimate outcome less favorable; still the effusion may remain for a long time without materially affecting the health. Subjects of sero-fibrinous pleurisy are unquestionably more prone to contract phthisis. Empyema, while of fatal termination if left without operation, does well under adequate interference, although tapping may have to be resorted to repeatedly.

TREATMENT.—*To cut short a beginning inflammation, apply a large blister.*—LANCEREAUX.

Sodium salicylate, 3 i.—iss. as a daily dose.—DOCK.

In infants :

℞ Pulv. digitalis gr. iss.
 Hydrarg. chloridi mitis gr. vi.
 Pulv. gum. acaciæ gr. xvi.
 M. et ft. chart. No. xx. S. Two to five daily.

Keep up a moderate, even temperature; liquid diet, mustard poultice, diuretics.

If effusion, small blister left for two or three hours, followed by a poultice.

For insomnia, chloral or bromides, but no opium.

Thoracentesis if effusion is extensive, displacing the heart.

In the acute stage:

℞ Potassii acetatis gr. xv.
 Tinct. aconiti radicis gtt. ij.
 Codeinæ sulphatis gr. ½
 Spir. Mindereri 3 ij.
 M. S. To be given every three hours.

When the pleuritis is of the rheumatic type, add ten grains of salicylate of sodium. To get rid of an effusion of serum, withhold liquids as much as possible and give saline purgatives and diuretics. The aspirator should be used and from ten to twelve ounces of liquid withdrawn. When pus is found neither the aspirator nor the trocar and cannula should be used, but a free incision should be made in the seventh or eighth intercostal space on a line with the posterior axillary fold; the pus and

brinous clots can thus be thoroughly evacuated, after which a drainage tube guarded with a safety pin should be introduced and a dressing of sterile gauze and cotton applied. The tube may be shortened from time to time, and when the discharge is thin or serous may be withdrawn. The initial operation as well as all subsequent dressings must be done with strict aseptic methods. It is necessary to excise a portion of rib when drainage cannot properly be secured by thoracotomy. Irrigation of the pleural sac I believe is harmful.—E. H. JAMES.

In acute pleuritis :

℞ Tinct. aconiti radiceis.....	℥ xxx.
Potassii acetatis.....	℥ ss.
Morphinæ sulphatis.....	gr. ss.
Liq. potassii citratis	℥ ij.
Syrupi tolutani	℥ i.
M. S. Two teaspoonfuls every three hours.	

In subacute :

℞ Potassii acetatis	gr. xv.
Spir. ætheris nitrosi	℥ ss.
Vini ipecacuanhæ	gtt. iij.
Syr. tolu	℥ ss.
M. S. For one dose. Repeat four times daily.	

—DA COSTA.

With sero-fibrinous exudation :

℞ Ammon. carb.....	℥ ss.
Aquæ laurocerasi	℥ ss.
Syr. lactucaril,	
Syr. senegæ	āā ℥ i.
Syr. tolutan.....	ad ℥ iv.
M. S. Tablespoonful every two hours.	

—MATAS.

To prevent extension of exudation, rest on the back until some time after the temperature has become normal.

Aspiration when the fluid half fills the pleural cavity, remains stationary for a week, or is on the increase.—LOOMIS.

Paracentesis. —When the effusion occasions grave symptoms, paracentesis, repeated if the fluid reaccumulates. Likewise when the effusion is large.

Caution.—As long as the effusion is of moderate dimensions

postpone paracentesis till the active stage is past.—SAMUEL WEST.'

Caution.—At the first puncture do not draw off more than a litre.—DIEULAFOY.

In chronic and tuberculous pleurisy, ordinary treatment is of little use. Repeated tapplings (ten to thirty ounces).

Or, withdraw a quantity of fluid and allow a lesser quantity of warm saline solution to flow into the pleural cavity.

Or, free drainage, by incision, resection of rib and tube, or by puncturing with trocar and cannula, inserting a piece of drainage tube through the cannula and withdrawing the latter.—ALEXANDER JAMES.

If pulmonary congestion is slight :

℞ Pulv. Doveri,
Pulv. scillæ,
Quininæ sulphatis ʒʒ gr. xlv.
M. et ft. caps. No. xxx. S. One every three or four hours.

In diaphragmatic pleurisy, if pains along the course of the phrenic nerves, apply wet cups over the region and inject morphine.—HUCHARD.

In serous exudations of long standing, sodium salicylate, gr. xv., repeated as required.—OERTLE.

If kidneys need stimulating :

℞ Potassii iodidi..... ʒ viij.
Infusi digitalis..... ʒ viij.
M. S. Tablespoonful after each meal.

—PAGE."

After-treatment, exercise stopping short of actual fatigue.

Cause the patient to breathe through a fairly large tube, the mouth of which is placed at the bottom of a tall jar or jug filled with water, so that expiration is made under a pressure of about eighteen to twenty-four inches of water.—SAMUEL WEST.'

Pleurodynia.

While pressure with the finger tips increases the pain in this variety of myalgia, pressure with the flat hand diminishes it.

We have here a point of value in distinguishing this affection from intercostal neuralgia, which shows only certain definite painful points under pressure. Motion of the chest wall, as in deep inspiration, causes pain, and the latter is made worse by certain efforts, as in coughing and singing.

These signs, while present in pleurisy, are then accompanied by fever and friction sounds, both of which are absent in pleurodynia. The latter, too, presents a pain of less darting character and usually there is absence of cough. The muscles, too, if caught up between the fingers, are sensitive. The pain is more continuous and is of an aching or burning quality, and is less localized than in pleurisy. Its occurrence in a rheumatic subject will assist us in diagnosis, and especially if the pain leaves one side suddenly to affect the opposite side of the body.

TREATMENT.—(See "Rheumatism, Muscular.")

Pneumonia, Acute.

In inflammation of the lungs, after an initial chill, which is usually severe, there occur dull pain upon one side of the chest, attended with rapid respiration (60, and in children 100, to the minute); a full, strong, rapid pulse of 120 beats or less, resisting finger pressure; and a temperature which may go as high as 105° F. The face is flushed, especially the cheek upon the affected side. (This symptom has no weight with many observers.)

An anatomical distinction between the several different forms in which pneumonia may occur will not here be attempted. Unless otherwise specified, the fibrinous, croupous, or lobar form is meant, the term broncho-pneumonia is employed to designate the lobular or catarrhal variety.

DIAGNOSIS.—Crepitant râles are heard over the affected lung area. The resonance is either at first slightly changed or it may be tympanitic in character. Within twenty-four hours, the sputa are tenacious, frothy, streaked with blood or dark red,

and later take on a characteristic "prune-juice" color. They are ejected with some difficulty.

Little difficulty attends a frank, uncomplicated case. When, however, the characteristic signs are obscured, as in pneumonia developing in the course of or as a sequel to acute articular rheumatism, in which the chill is slight or wholly lacking, more difficulty is experienced. The sputum is usually brighter than the rusty expectoration of ordinary pneumonia. The onset is abrupt and it may subside quite suddenly as new joints become implicated. Other intercurrent pneumonias may also be overlooked, especially in subjects with feeble respiratory murmur, because of some severe chronic affection already present, such as nephritis, diabetes, phthisis, organic heart disease. In aged subjects, the symptom of cough with expectoration may be wholly absent. The occurrence of chill and fever may here, as well as occasionally in younger subjects, lead to physical exploration.

In alcoholic subjects, delirium tremens may be so closely simulated in the early stages that the pneumonia is overlooked unless careful examination is made.

In children, vomiting may occur at the outset and symptoms referable to the digestive tract may be so persistent as to obscure the evidences of lung inflammation and lead into error, or convulsions or other cerebral manifestations at a very early date may throw one off the track.

The pain of pneumonia in children may be referred to the abdomen.

In children the diagnosis between croupous and broncho-pneumonia is either easy, difficult, or impossible; the latter because of mixed forms. The onset is more sudden in croupous.—
GRIFFITH.

DIFFERENTIATION.—Pleurisy is distinguished by the character of the chest pain being sharp, and there being a friction sound instead of crepitation. Chill is lacking and febrile symp-

toms are usually slight. There is often dulness on percussion and the respiratory murmur is enfeebled or absent. In pneumonia dulness is never so absolute as in pleurisy. Increased pectoral fremitus speaks for pneumonia, increased chest circumference for pleurisy. In left-side pleurisy there is dulness in Traube's semilunar space (outlined by liver, lung, spleen, and free border of ribs). This space is clear in pneumonia. Unless exudation is very great, there is no displacement of heart or liver in pleurisy and practically never in pneumonia. The expectoration, besides being free from blood staining, is less abundant. The onset is slower. Defervescence is not by crisis. It is the form of effusion which occasions most confusion. The combination pleuro-pneumonia is of common occurrence. Pleurisy with effusion in children is often distinguished with great difficulty from unresolved pneumonia. In pleuro-pneumonia children cry from the pain of handling.

In acute pneumonic phthisis, the presence of characteristic bacilli in a more purulent sputum and the greater emaciation, more profuse sweating, and a more intermittent or remittent type of fever, suffice for the distinction.

Involvement of both apices primarily is, in itself, suspicious of a tuberculous process; a suspicion which is often confirmed subsequently by consolidation followed by cavity formation and the discovery of bacilli. This form is said to be frequent in negro children.

Acute miliary tuberculosis, which also gives tympanitic dulness, faint respiratory murmur, and double-side râles, is to be distinguished from pneumonia with more or less diffuse bronchitis, associated with limited areas of consolidation. There is more tendency to perspiration and the countenance has a somewhat cyanotic or dusky appearance.

Broncho-pneumonia itself is distinguished from croupous or lobar, by its occurring chiefly in infants and children and following the various infectious fevers and conditions of debility

The onset is more gradual with less tendency to chill, but with greater degree of prostration, cough, and dyspnoea and less rustiness of sputum. Evidences of consolidation are slight, the signs being chiefly those of bronchitis. When the alveoli become implicated after the bronchi, along with the increased temperature, pulse rate, and respirations, the cough changes in character and there is an expiratory moan as well as expiratory dyspnoea. Crepitant râles are usually to be found. Morrison has referred to "jerky expiration" as an early sign heard in children before dulness or crepitation.

Meningitis is often closely simulated in the early stages of pneumonia, especially when situated at the apex, or centrally in children, the physical signs not becoming distinctive for several days. It is to be distinguished from true meningitis by a subsidence of the cerebral symptoms, whereas in the latter they persist to the end. Cough and expression of pain are often, too, in evidence along with the vomiting, convulsions, and delirium.

Delirium tremens may be complicated with a hidden pneumonia which careful physical exploration will alone reveal, or, as already mentioned, a condition closely simulating the delirium from drink may be an early misleading symptom. Fever and rapid respiration without corresponding pulse rate should direct attention to the lungs.

Acute cedema with most of the signs belonging to the congestive stage of pneumonia is distinguished by lack of fever, more widely distributed râles, and the existence of heart or renal disease to account for its presence.

Œdema, associated with collapse of the lung with moist and crepitant râles, is at times almost impossible to distinguish from catarrhal pneumonia, while the lobar form is more readily distinguished by its inflammatory symptoms, higher fever, and history of onset.

In the catarrhal form areas of dulness are subject to frequent change of location.

Influenza simulating pneumonia by its high initial fever, headache, flushed cheek, chest pain, etc., is distinguished by the fact of epidemic prevalence, the greater amount of prostration from the onset, the lesser frequency of respiration, greater amount of sweating, and the chest signs being rather those of congestion and œdema along with some bronchitis.

In capillary bronchitis the temperature does not remain high so long as in pneumonia and the course is more rapid.

Herpes speaks for pneumonia.

PROGNOSIS.—Pneumonia is the most fatal of the acute infectious diseases of adults in temperate climes, the mortality varying according to age from twenty to thirty per cent. hospital statistics showing from twenty to forty per cent. In diabetic, chronic nephritic, and cardiac patients, the prognosis is proportionately grave. Negroes, according to Osler, show a higher death rate than whites.

Old age and intemperate habits make prognosis bad.

Excluding individuals over fifty years of age, and those who are delicate, intemperate, or the subject of complications, the death rate is little over ten per cent.—TOWNSEND.

When acute delirium at the onset simulates insanity the prognosis is bad.—OSLER.

Patients die with heart failure just before defervescence, from the extension of the inflammation, from general poisoning, from one of the complications, from thrombosis of the coronary arteries.—DELAFIELD.

TREATMENT.—There is no routine treatment applicable to every case, and drugs often play a secondary part.

At the onset, calomel, gr. $\frac{1}{4}$, in form of tablet triturate, every half-hour until six or eight are taken. Or gr. ii.-v., at once.

The following morning, pulv. effervescens comp. (Seidlitz powder), No. i. Or, liq. magnesii citratis, $\text{ʒiv.}-\text{ʒvi.}$ Or, magnesii sulphatis, $\text{ʒss.}-\text{ʒi.}$ in water.

In early pulmonary hypercemia with lividity, gasping respiration, and distended veins, phlebotomy up to half a pint for the average adult.—ARTHUR FOXWELL.

Pneumonia is a self-limited disease, not influenced by medicine and not cut short by any means at our command.—OSLER.

Hypodermic injections of strychnine.—J. R. TYSON.

In acute lobar pneumonia, blisters, the greatest single agent in treating this disease, have saved more lives than all the drugs in the materia medica. If used skilfully and when indicated, that is, in the beginning of the third stage, they will afford prompt relief from pain, aid the expectoration of the clogged lung, and very materially hasten convalescence.—RAMON D. GARCIN.

Complete rest of body and mind. Thorough ventilation of the sick-room. Diet restricted to milk and farinaceous broth, four to six ounces every two hours. Plenty of water. Alcohol is not necessary, as a rule. A good dose of calomel at the outset. It is probably of benefit in indirectly relieving the engorged lung by acting upon the portal circulation.—BARUCH.

For the first stage, counter-irritation and bleeding; for the second, digitalis and nitroglycerin; for the third, ammonia and alcohol.—CADWALLADER.

℞ Beechwood creosote..... 35 gm.

Tincture of gentian 50 "

M. S. From twenty-five to one hundred and fifty drops a day in wine.

—CASATI.

Perfect repose in bed so far as possible, and for the first few days, calomel, gr. $\frac{1}{16}$ — $\frac{1}{8}$ according to effect, every three to six hours.

℞ Liq. ammonii acetatis..... § i.

Tinct. opii camph..... 3 vi.

Spir. ætheris nitrosi..... 3 iv.

Aquæ laurocerasi 3 ss.

Syr. tolutani..... 3 ss.

Aquæ camphoræ..... q.s. ad § iv.

M. S. Dessertspoonful every two hours in water.

—C. J. MACGUIRE.

For inflammatory pain, tinct. aconiti, ℥i., every half-hour for twelve doses, then every hour.

Or, antimonii et potassii tartras, gr. $\frac{1}{8}$ every hour for twelve doses, then less frequently.

For headache with high tension, phenacetin, gr. x.-xv., followed by calomel to remove the tension.—FOXWELL.

In exhaustion, strychnine; in collapse, or, when it is threatened at a time of crisis, atropine. Its checking excessive sweating often gives it further advantage; caffeine in small dose as an adjuvant, or, in special cases, to overcome stupor.—WOOD AND FITZ.*

Low mortality in the navy is attributed by the surgeon-general's report to the uniform treatment by strychnine, gr. $\frac{1}{80}$ - $\frac{1}{15}$, every three hours by hypodermic injection, and the free use of alcohol.

During resolution with expectoration not profuse:

℞ Tinct. opii deodorati ℥ v.
 Ammonii chloridi,
 Ammonii carbonatis āā gr. viij.
 Tinct. cubebæ ℥ xv.
 Syr. tolutani q.s. ad 3 ij.
 Every three hours. —ZEH.

In the clearing-up stages:

℞ Eucalyptol ℥ xlv.
 Ammonii iodidi 3 iiss.
 Vini picis liq.,
 Syr. tolutani āā 3 i.
 M. S. 3 i. in water every three to four hours.

Caution.—Avoid ammonium iodide if phthisis be developing.—TUFFS.

Inhalation in pneumonia and broncho-pneumonia:

℞ Creosote 15 gm.
 Phenic acid,
 Alcohol āā 5 "
 Glycerin 50 "
 Alcohol, 95 per cent. 200 "

All the ingredients should be chemically pure. Dilute one-half at time of employing in spray atomizer. Let patient

breathe at first through the nose to prevent coughing. Repeat six times in twenty-four hours, ten minutes each time.—VÉRET.

Inhalations of ethyl iodide.—S. SOLIS-COHEK.

In high fever, great restlessness, and great irritability, ice bags or ice-cold compresses to the head for a period determined by the amount of fever present and its decline. Ice bags wrapped in dry towels are applied over the inflamed area in the lung and held in place by bandages.—T. J. MAYR.

Caution.—If the lung is choked up with exudate, cold can be of little service. Care must be exercised in feebleness or delicacy of the system, in which cold is contraindicated.—H. A. HARR.

BATHS, PACKS, ETC.

No procedure in the whole range of pneumonia therapeutics can be more safely applied or is followed by more grateful effects than the application of cold (ice bags, sponge baths). The old-time poultice is being relegated to a well-deserved oblivion.—JAMES K. CROOK.

The cool bath of ten minutes' duration is advocated by Falsome, who finds it more grateful to the patient than in typhoid and very efficacious.

Hot baths are of greater importance than almost any other single feature of treatment. If they cannot aid in cure, they rarely fail to assuage.—EICHBERG.

Ice bag over dull area and advancing edge of consolidation. Hot bottles to feet. Pneumonia treated vigorously with ice within twenty-four hours after the rigor may sometimes be aborted.

Caution.—Temperature below 99° F., hands cold, lips blue, remove ice for one hour.—LEES.

The cold pack is better for pneumonia than for typhoid fever.—MORRILL.

The cold bath, as in typhoid, is applicable except in the

~~moribund~~; when the temperature is not over 102.5° F.; and in ~~mild~~ cases in young people.—FOLSOM.

In children, tepid hip baths with powerful douches and rubbings of not more than five minutes' duration offer the best method of treatment.—BUXBAUM.

Wet compresses adapted in duration and temperature to each case, fluid diet, an abundance of water, mild alcoholic stimulation, hypodermics of strychnine, all following an initial large dose of calomel, offer at the present time the most favorable result. The chief indications for treatment are to stimulate and invigorate the nerve centres with a view to enhancing the patient's vital powers, to prevent and control heart failure, to reduce temperature, to eliminate toxins.—BARUCH.

Cold pack relieves the insomnia in the best way, or, if there be much exhaustion, a *hot pack*.

Morphine intramuscularly only as a last resort.

Caution.—It is always dangerous and in chronic renal disease very often deadly.

Bandage the chest in oil-soaked cloths with dry bandage outside.—PARKER.

Take a sheet long enough to go very loosely twice round the body and wide enough when folded once to reach from root of neck to knees; take a reef in the middle of it as wide as the patient's back; let him lie on this, *i.e.*, on six thicknesses; then bring each end across the front of the body under the arms, but reaching well up to the root of the neck between the armpits. There must be two of these sheets, one to lie in the bucket of ice-cold or slightly warmer water. It should be wrung enough to prevent dripping and then arranged on the macintosh before the change is effected. No covering should be placed over the cold sheet. The feet *except the toes*, the hands *except the finger tips, with the legs and arms*, must be wrapped in cotton wool and protected from the wet by gutta-percha tissue. The toes and finger tips, as well as the face, are to be carefully watched,

and if they become cold and blue some stimulant should be administered.—FOXWELL.

Ice poultice, made by mixing finely cracked ice with flaxseed meal, is often effectual in reducing high temperature in children when placed around and on top of the head.—H. D. CHAPIN.

Cold compress to surround the chest, plunged in water from 80°–90° F. and changed every fifteen or twenty minutes, while the temperature of the water is being gradually lowered to meet the requirements.—CHAPIN.

The prejudice against small doses of antimony and also against bleeding in moderation in suitable cases is entirely unfounded, and both may be eminently beneficial.—SIR HERMAN WEBER.

In infectious pneumonia, a napkin large enough to reach from the top of the sternum to the stomach and cover the anterior and both lateral surfaces of the chest, is dipped in cold water at a temperature of 46° to 50° F. and applied to the chest. At the end of five minutes it is replaced by a cold one, and this treatment is continued for an hour. After a half-hour's rest three similar series are carried out.—KLEIN.

In malignant types of croupous pneumonia cold is the most valuable heart stimulant and antipyretic. In obstinate cases cold baths.—CAMPBELL.

The value of hydrotherapy extends far beyond reduction of temperature. At times a very hot bath might benefit a desperate case.—BISHOP.

Pyrexia, unless excessive, need not be reduced, and then not below 102° F.—R. DOUGLAS POWELL.

Diaphoresis is pre-eminently the antipyretic in pneumonia.—MACARTNEY.

In collapse :

R. Camphor.....	10
Olei olivæ.....	100

M. S. Inject a drachm or more into each forearm.

To establish free secretion of all the organs of the system:

℞ Tinct. aconiti,
 Tinct. bryoniæ āā gtt. x.
 Tinct. digitalis 3 i.
 Potassii nitratis 3 ss.
 Ext. ipecac. fld gtt. x.
 Syr. pruni virginianæ q.s. ad ʒ iv.

M. S. For adults, teaspoonful diluted every hour until patient is better; then only as seems to be required, say every three hours while fever lasts.

—VANDOREN.

After a five-grain dose of calomel give:

℞ Tinct. aconiti ℥ xxiv.
 Tinct. opii camphoratæ 3 ij.
 Liq. ammonii acetatis,
 Syr. zingiberis āā 3 ss.
 Aquæ q.s. ad ʒ vi.

M. S. ʒ ss. every two hours.

—RIPLEY.

To jugulate pneumonia :

℞ Fol. digital. opt 3 i.
 Aquæ ʒ viiss.

M. S. Tablespoonful every half-hour.

Mortality a little over two per cent and cure in three days.—
 PETRESCO.

When, in the first twenty-four hours of a pneumonia, there is violent constitutional reaction, with flushed face, rapid and noisy breathing, bloody sputa, intense headache and drowsiness, a hard, bounding, or a tense, corded pulse, venesection may markedly lessen all the symptoms, and, if combined with dry cupping over the whole chest, may, we believe, lessen the amount of engorgement of the lung and the final area of consolidation.—WOOD AND FITZ.*

In croupous pneumonia :

℞ Ammonii carbonatis gr. ij.-iv.
 Every three hours for a child of seven years.

And—

℞ Tinct. digitalis gtt. v.
 Every three hours.

And—

℞ Strychninæ sulphatis gr. ʒ
 Four times daily.

—J. C. DACOSTA.

In croupous pneumonia when the circulation begins to fail: strychnine, gr. $\frac{1}{16}$ - $\frac{1}{8}$ hypodermatically every three to four hours.—JAMES M. FRENCH.

In lobar pneumonia of children and adults:

℞ Caffeinae iodosalicylatis..... 3 ss.
Ammonii carbonatis..... 3 iss.
Elix. simplicia..... q.s. ad $\frac{3}{4}$ ij.
M. S. Teaspoonful every three hours. —LORENZ.

℞ Formate of sodium..... 3 ij.
Ft. chart. No. xxx. S. For an adult from four to eight daily; for a child from one-half to two daily.

—ROCHON.

In hepatisation to promote absorption:

℞ Ammonii carbonatis..... 3 ij.
Potassii iodidi..... 3 iss.
Syr. aurantii corticis..... 5 ij.
Aque..... 3 ij.
M. S. Teaspoonful every two hours.

—L. B. YOUNG.

In fibrinous pneumonia:

℞ Pulv. digitalis fol..... 5 parts.
Aque..... 200 "
Add:
Syr. aurantii corticis..... 40 "

M. ft. infus. S. Tablespoonful every half-hour: As much as three drachms of the leaves may be given in twenty-four hours.

—PETRESCO.

Digitalis, given in physiologic dose and along with strychnine, is administered until the pulse comes down to 90 a minute. If it can be kept there, recovery will ensue in a shorter time, as a rule, than by the use of other methods of treatment.—FOSTER.

After exudation has taken place, the three sheet anchors are digitalis, strychnine, and belladonna.

Caution.—Collapse may be due to the digitalis. Caution must also be exercised with digitalis in croupous pneumonia.

If the temperature be high, it will prevent the action of the drug, and cumulative effects may follow when the fever disappears.—HARE.

In syphilitic pneumonia, mercurial inunctions and sulphur baths.—POSPELOW.

Heart Failure.—In the dangerous period of threatening cardiac failure of pneumonia or other acute and infectious disease, I have seen excellent results from hypodermics of one-half drachm of a twenty-per-cent solution of camphor in oil, administered every hour or half-hour as indicated, and of strychnine, gr. $\frac{1}{16}$, two or three times in twenty-four hours, to support heart.—LEONARD WEBER.

In alcoholic cases, foresee the delirium that is likely to develop in the later days and prevent it by the early free use of safe sedatives: bromides, \mathfrak{z} ss.— \mathfrak{z} i. in twenty-four hours. When delirium has developed bromide is too mild.—L. F. BISHOP.

Alcohol is here indicated.

Topical—*Spray* over the posterior aspects of the chest an almond-oil solution of guaiacol.—MALDARESCO.

For pleuritic pain, leeches (three to twelve). Cantharides blister (one inch wide and four inches long) along the intercostal space in the middle portion of the affected region.—FOXWELL.

Pain is the most prominent symptom, and the most rational thing to do is to immobilize that side of the chest and apply warm, soothing poultices. If necessary, a small amount of morphine may be allowed. The treatment is practically expectant, but the following may be allowed in some cases:

R Tincturæ aconiti.....	℥ i
Tincturæ digitalis.....	℥ iij
Spiritus frumenti.....	℥ iij.

S. This is to be taken every three hours

—LOUIS F. BISHOP.

For hypodermic injection:

R Sodii benzoatis.....	gr. xxiv
Caffeine (Merck).....	gr xxxvi
Aque destillatæ.....	℥ iss.

Dose fifteen minims.

R Sodii salicylatis.....	gr. xlviij.
Caffeine (Merck).....	℥ i.
Aque destillatæ.....	℥ iss.

Dose fifteen minims.

Dissolve with heat, and warm the bottle before injecting.—ADOLPH ZEH.

As a heart tonic, especially in asthenic cases :

℞ Strychninæ sulphatis..... gr. $\frac{1}{2}$
 Pulv. camphoræ 3 i.
 Sacchari lactis..... gr. xx.
 M. et ft. capsul. No. xii. S. One every four or six hours.

The camphor increases the action of the right heart and lessens the tendency to delirium.—E. G. TUFFS.

Strychnine, caffeine, morphine, alcohol.

Pneumonia in the Aged.

When typical this is apt to be latent, masked, asthenic, and migratory.

In old age pneumonia may be latent, coming on without a chill; the cough and expectoration slight, the physical signs ill-defined and changeable, and the constitutional symptoms out of proportion to the extent of the local lesion.—OSLER.

When a generally ill-defined illness is present in an old person, lobular pneumonia is to be expected.—LOOMIS.

Rest in bed and careful watching may ward off pneumonia, vigilance being the price of safety.—J. B. AYER.

Alcohol, which should not be given in a routine way in pneumonia, may here often be employed to advantage.

Pneumonia in Infants and Children.

Croupous pneumonia gives about one-third of the cases. It often begins with vomiting, more rarely with convulsions, less frequently with chill. One of the important signs is a perverted pulse-respiration ratio. There may be ten respirations to twenty beats. The left lower lobe is most frequently affected next the right apex. The crepitant râle is oftener absent than present.—J. PARK WEST."

Prophylactic measures, indicated in the course of infectious maladies which are often followed by broncho-pneumonia, are: (1) To isolate the patient as much as possible; (2) to avoid chills; (3) to place the patient in a chamber which can be aired

as much as possible; (4) to make the air which the patient breathes aseptic by antiseptic vapors: the following solution may be used—

R Phenol	20 gm.
Thymol.....	10 “
Benzoin	10 “
Alcohol	100 “
Water	860 “

(5) to make the respiratory tract aseptic: (a) by nasal instillations of mentholated oil, (b) by irrigations of the mouth by boric acid; (6) to care for the skin, which can be the port of entry for infectious germs; (7) to care for the intestine (calomel); (8) to stimulate the organism (tonics, alcohol, baths).—CARRIÈRE.”

In infants the prognosis is usually good.—KOPLIK.

Death from pneumonia may be due to a complication, as cardiac defect, antedating the advent of pneumonia, or heart failure due to it, meningitis, pericarditis, abscess of lung, gangrene of lung, etc.

The toxæmia outweighs all other elements.

In pneumonia of children, baths at a temperature of 64° to 70° F. combined with cold douches.—BUXBAUM.

To abort pneumonia in children :

R Tinct. verat. virid. (Norwood)....	gtt. vi.
Tinct. aconiti rad.....	gtt. ij.
Aq. destill.,	
Syr. tolutan.....	āā ʒ ss.

M. S. Teaspoonful every half-hour for five doses, then a teaspoonful every hour.

—ILLOWAY.

Catarrhal pneumonia :

R Ammonii carbonatis.....	gr. xxiv.
Syr. tolutani	ʒ vi.
Spt. vini gallici.....	ʒ iiij.
Syr. senegæ	ʒ iiiss.
Syr. acaciæ.....	q.s. ad ʒ iiij.

M. S. Teaspoonful every two hours for a child of two or three years.

—GOODHART AND STARR.

To relieve irritability and restlessness, and to secure free elimination and a good action of the kidneys, use:

℞ Vini ipecacuanhæ..... 3 i.
 Potassii citratis gr. xxx.
 Tinct. opii camphoratæ 3 ij.
 Elixir simplicis 3 i.
 Aquæ destillatæ.....q.s. ad 3 iv.

M. S. A teaspoonful to an infant six months old every two hours.

—FRANK S. PARSONS.

Heart stimulant:

℞ Camphoræ..... gr. iss.-ijj.
 Flor. benzoin gr. iij.
 Theobromæ..... gr. vi.

M. S. Three or four times a day.

—CAILLÉ.

In strong children oppressed by a large secretion of mucus, pulv. ipecacuanha until emesis occurs. Vapor under a tent of blankets.

In cyanosis, oxygen inhalations.

In tardily resolving pneumonia:

℞ Ammonii carbonatis gr. i.-v.
 Every three hours.

In great prostration or collapse:

℞ Spir. ammoniæ aromatici gtt. iij.-v.
 Every half-hour till relieved.

—FRUITNIGHT.

Broncho-pneumonia in children:

℞ Sodii benzoatis gr. viij.
 Ammonii acetatis gr. xxiv.
 Spir. vini gallici..... 3 ij.
 Mist. acaciæ,
 Syrupi.....āā 3 iss.

M. S. From one-half to one teaspoonful, every two hours.

—MARFAN.

Inhalations of steam, oxygen, flaxseed poultices (ice poultices may do harm). When numerous moist râles: mustard, 1; flour, 4, to make paste. In cyanosis, an emetic. Alcohol.
 —JOS. WINTERS.

Expectorants disturb the stomach and are useless. Steam inhalations and oxygen should be freely given.—J. E. WINTERS.

Spare the stomach. Do not injure the infant's chances by placing a pound of poultice on the chest to be lifted with every respiration. Treat symptoms. Digitalis in drop doses; strychnine, gr. $\frac{1}{400}$; opium in small dose to relieve pain and support the heart.

Caution.—Too much opium paralyzes the organ and causes œdema.—KOPLIK.

Pneumonia in Infants.—To avoid distention of the colon by gas, which occasions cyanosis or convulsions, daily irrigation of the colon is practised. Avoid expectorants. Use antipyretics only when there is high temperature with extreme nervous symptoms. Inhalations of steam charged with vaporized creosote, turpentine, or benzoin from a croup kettle under a tent are employed systematically in all cases every three or four hours. An oil-silk jacket should be worn.—L. EMMETT HOLT."

When the catarrhal state is very pronounced in a child of ten years:

℞ Antimonii et potassii tartratis gr. i.
 Sodii sulphatis 3 ij.
 Syrupi $\frac{3}{4}$ ss.
 Aquæ $\frac{3}{4}$ iv.
 M. S. A fourth to be given every half-hour.

As a result of the vomiting and purging there is less dyspnoea, slower pulse, and an improvement in the general condition.

When there exists great agitation, delirium, or convulsions, trional, grs. v.-xviii., in the evening in a little milk.—COMBY.

℞ Ammonii acetatis 1-2 gm.
 Sodii benzoatis 2 "
 Oxymel. scillæ 10 "
 Syr. pruni virginianæ 80 "
 Aquæ destillatæ 110 "
 M. S. Teaspoonful or more, according to the age, every hour.

—PÉRIER.

In depression following the crisis, nitroglycerin frequently repeated is very valuable.—J. PARK WEST.

Pneumothorax.

The accumulation of air in the pleural cavity presents symptoms of sudden, almost unbearable pain upon one side and usually in a subject of phthisis. There are an anxious expression, possibly loss of voice, distressing cough, cold and clammy extremities, the patient sitting in a slightly bent-over or lying in a semirecumbent position with the knees drawn up.

DIAGNOSIS.—The affected side is almost immovable and distended and the intercostal spaces are obliterated, with a corresponding exaggeration of motion upon the opposite side.

The percussion note is non-tympanitic and usually of low pitch. There is either great diminution or cessation of all respiratory and vocal sounds over the lower chest behind and laterally. There is a characteristic amphoric quality of transmitted sounds, and the respiration may first be heard while the lung tissue is being auscultated, like a distant soft musical note, or a metallic tinkle may be present.

If the stethoscope be applied to the front chest wall and strong percussion be made upon the posterior wall, using the pleximeter, the sound heard will have a marked metallic quality. A succussion or splashing sound gives the first indication of an effusion, which usually follows quickly upon perforation.

DIFFERENTIATION.—One-side emphysema may present almost identical symptoms, but the presence of respiratory murmur will decide the question.

Pulmonary cavity is excluded by the distention, since the former produces retraction of the chest wall with the heart drawn toward the affected side.

Diaphragmatic hernia would be excluded by the absence of the characteristic signs above enumerated. The diaphragm as well as the heart may be displaced.

Pneumothorax may exist in combinations of air and serum, air and pus, or air and blood.

Spontaneous pneumothorax may be differentiated by the tuberculin test (injection of 2 mgm. subcutaneously followed by 1 or 3 mgm.).—CHAUFFORD.

Caution.—Do not go beyond this dose.

PROGNOSIS.—Favorable, when spontaneous (muscular strain) and in penetrating wounds not of themselves mortal. Unfavorable in phthisis and septic forms.

TREATMENT is simple when phthisis is not in question. Pain is to be quieted by applications of ice, or, better, by injecting morphine.

Caution against all effort and coughing.

In threatened asphyxia and in total pneumothorax, paracentesis. If threatening dyspnoea supervene, pleurotomy.

In spontaneous or traumatic, aspiration may relieve.

A cannula may be left in the chest wall for hours under a wool dressing.—GODLEE.

For pulmonary congestion, dry cups, revulsives, inhalations of oxygen; if necessary, bleeding.—FAISANS.

If little exudation, inject in the fifth intercostal space to secure pleural asepsis:

R Tinct. iodi,
Alcohol,
Potassii iodidi (10 per cent solution) 60 gm.
M. S. Inject thirty grams.

—MOIZARD.

Thoracentesis only if necessary, and then all gas should not be evacuated at once, to avoid reaccumulation.—RENDU.

Aspirated gas may be replaced by the introduction through the cannula of sterilized air.—POTAIN.

Poisoning.

Poisons are local or systemic in action, or may produce a combined effect. When the particular drug ingested is not known and symptoms are not characteristic, treatment should

be symptomatic and directed toward eliminating the poison and sustaining the vital forces.

As a general antidote in such cases:

℞ Calcined magnesia,
 Powdered charcoal..... $\bar{\text{aa}}$ ʒij. - 3 i
 Hydrated sesquioxide of iron..... ʒ i - ij.
 Water q.s.

M. S. At a dose.

Borate of sodium mixed with milk is said to be the best general antidote after the stomach has been emptied. For vegetable poisons permanganate of potassium in one-per-cent. solution. For carbolic acid, vinegar. This is said to act well also externally.

POISONING BY ACIDS.

In acute poisoning by the acids we have a cauterized condition of the mouth and throat, vomiting, tenesmus, colic, bloody stools, collapse.

The effect of the stronger alkalies gives a similar symptomatology.

The aim of treatment is to neutralize the poison and then effect its speedy removal.

CARBOLIC ACID.

DIAGNOSIS.—Besides the local symptoms, there are insensibility of the cornea, contracted pupils, and subnormal temperature. Pulse rapid and weak. Respiration labored and later stertorous. Coma precedes death. The urine is of a dark or olive-green color.

The local application of carbolic acid frequently produces acute toxic symptoms. When carbolic is used on an extensive surface, watch urine carefully. Lysol, salol, and the salicylates may produce similar symptoms and require like treatment.

DIFFERENTIATION.—The odor about the patient and particularly in the exhalations, the presence of a bottle which has been drunk from by mistake or intent, a whitening of the mucous membranes of the mouth, and a burned appearance of the skin

and lips furnish the necessary information when a history is not obtainable.

TREATMENT.—Soluble sulphates, sulphate of magnesium, and, according to Billroth, the administration of soap, are the proper antidotal measures.

Sulphate of zinc is the chemical antidote producing the sulpho-carbolate.—PEABODY.

Give freely of vinegar and water in equal parts; promptly empty the stomach.—CARLETON.

Caution.—Avoid the stomach pump.

Oils are the best outward applications for burns of the skin.

CHROMIC ACID.

DIAGNOSIS.—Symptoms of corrosive poison. Internally, gr. v. have produced fatal result; even external application may be followed by metallic taste, peculiar odor of breath, gastro-enteritis, collapse.

Chrome yellow, used by bakers to color cake, has caused poisoning, with symptoms resembling lead poisoning.

TREATMENT.—Same as for mineral acids.

HYDROCYANIC ACID.

DIAGNOSIS.—Almost always produces instant death; when death is not sudden, prostration, giddiness, staggering, gasping respiration, rapid fluttering heart, collapse, convulsions, and respiratory paralysis. Pupils dilated, eyes protruded, blood very dark in color.

DIFFERENTIATION.—Peculiar bitter-almond odor of breath is characteristic.

PROGNOSIS.—If pulse and respiration can be supported for about thirty minutes, recovery may be expected.

TREATMENT.—Atropine, to extent of gr. $\frac{1}{20}$ if necessary; hydrogen peroxide internally.—ROBERT.

Cold affusions to spine. Ammonia.

MINERAL ACIDS.

Hydrochloric, nitric, and sulphuric acids are similar in action, and therefore considered together.

DIAGNOSIS.—Immediately a burning in mouth and œsophagus, intense pain, gastro-enteritis, brown or black vomit, very acid and usually bloody. Diarrhœa or constipation, suppression of urine, collapse. Cerebral symptoms usually absent, sometimes convulsions, occasionally asphyxia from œdema of glottis.

DIFFERENTIATION.—Sulphuric acid produces deep coagulum of a black, charred appearance. Hydrochloric acid is less penetrable. Tongue and mucous membrane are red and swollen, or grayish-white; later, black. Nitric acid causes a yellow stain.

TREATMENT.—Administer alkalies, preferably bicarbonate of potassium or sodium, or magnesia, chalk, soap; together with copious mucilaginous diluents—flaxseed, barley water, flour, albumin, oil, milk.

Caution.—Never use stomach pump. Hemorrhage or perforation may take place during effort to vomit.

Morph-atropine for pain.

Cardiac and respiratory stimulants.

For external burns from vitriol, dilute with weak alkaline solution, and treat as ordinary burn.

OXALIC ACID.

Resembles mineral acids. Small doses paralyze the central nervous system and the heart ganglia.

Caution.—This drug is so freely sold for domestic purposes that its resemblance to various salts used internally must be remembered and utmost care exercised.

DIAGNOSIS.—Large doses cause almost immediate death;

small doses, intense sour taste, swollen tongue, tingling and numbness in extremities, tetanic spasm, delirium convulsions, collapse.

TREATMENT.—The best antidotes are chalk and magnesia mixed with milk.—REESE.

Whitewash, lime-water, oil. Stimulants, opium.

ACONITE.

Large doses are usually immediately fatal. Aconite root resembles horseradish, but the latter has no “fleshy” fibres and is white.

DIAGNOSIS.—Tingling and burning in fauces are the first symptoms, soon extending to extremities, causing numbness, formication, great muscular weakness, perhaps convulsions. Pulse very feeble; slight exertion may cause fatal syncope. Surface temperature is at first raised; skin is red and feels warm; but the internal temperature is lowered.

TREATMENT.—Emetics, etc. Tannic acid, alcohol, ether, ammonia.

Digitalis seems to be the physiological antagonist.—SHOE-MAKER.

Inhalations of amyl nitrite.—ELLIOT.

Diffusible stimulants, atropine, strophanthus, digitaline, or adonidin hypodermatically; artificial respiration, faradization.

ALKALIES—POTASSA, SODA, AMMONIA.

DIAGNOSIS.—Acrid, nauseous, bitter taste; violent gastro-enteric symptoms; alkaline, blood-stained vomit; bloody purging with tenesmus; collapse. Perhaps suffocation from oedema of glottis. Eschar is tenacious and white, or black from bloody effusion.

Potash salts are cardiac paralysants.

DIFFERENTIATION.—Potassa produces a deeper coagulum, and its penetrability is greater. Ammonia vapor may sometimes be detected in breath.

TREATMENT.—Vinegar and water, dilute acids, lemon juice; oil, milk, and other demulcents. Opium, stimulants. Avoid the use of stomach pump.

ANTIMONY, ACUTE.

DIAGNOSIS.—Sweetish, metallic taste; gastro-enteric symptoms resembling cholera; cramps in the extremities; collapse, sometimes delirium, convulsions. In exceptional cases there may be no vomiting or purging. Urination painful. Death in a few days; if patient survives, a pustular eruption occasionally develops. Local application may cause poisoning.

TREATMENT.—Tannic acid is antidote, or gallic acid; astringents, vegetable acids, tea, coffee, preceded by emetic or lavage. Demulcents. Hypodermatically, strychnine, digitaline, atropine, whiskey.

ANTIMONY, CHRONIC.

Gastro-intestinal irritation simulating Asiatic cholera or dysentery, starch-like stools, emaciation, pale drawn countenance, feeble heart action, syncope, asthenia, and death from exhaustion.

DIFFERENTIATION.—Criminal poisoning should be suspected when above symptoms occur and no epidemic of cholera exists.

TREATMENT.—Symptomatic.

ARSENIC, ACUTE.

In acute poisoning, usually from Paris green or rat poison, symptoms as a rule do not occur for half an hour or an hour. There is dryness, and a feeling of heat and constriction in the throat, epigastric pain, vomiting, diarrhoea, tenesmus, marked thirst, and a peculiar astringent feeling in the mouth. The skin is cold, but the patient has a feeling as of warmth of the surface; while the anxious expression, cramps in the legs, difficult breathing, faintness, and other evidence of pronounced disturbance cause a resemblance to the second stage of

cholera. Delirium and convulsions may occur. Stupor, coma, convulsions, paralysis may supervene before death.

Anomalies occur: thirst, vomiting, diarrhœa, and tenesmus may be absent; collapse, coma, and death may occur in a few hours; or delirium, convulsions, and coma may precede death.

The urine is diminished or suppressed, contains albumin and sometimes blood. If patient survives, paralysis may follow.

Acute poisoning may result from local applications of arsenic.

DIFFERENTIATION.—Symptoms of Asiatic cholera, occurring in the absence of an epidemic, should cause one to suspect arsenical poisoning.

PROGNOSIS.—In acute arsenical poisoning the greatest danger to life is during the first week.

TREATMENT.—A quick emetic or the stomach pump, followed by the free use of hydrated oxide of iron, freshly made by adding carbonate of sodium—or, better, magnesia, which is also an antidote—to the tincture of the perchloride. Two ounces or more may be given. Or dialyzed iron. Follow later with a dose of castor oil. Mucilaginous drinks.

ARSENIC, CHRONIC.

DIAGNOSIS.—Symptoms develop insidiously, and are often misleading; the correct diagnosis may be revealed by accident. Swollen inflamed eyelids, lachrymation, dry irritated throat, gastric distress, constant hunger with loss of appetite, are most frequent symptoms. Diarrhœa, cramps, sallow complexion, emaciation; later, scurvy-like manifestations, eczema or other dermatoses, red swollen tongue, hemorrhages, and death. Occasionally cerebral symptoms develop.

DIFFERENTIATION.—Occupation or a history of exposure to arsenical vapor, or the detection of highly charged arsenical wall paper in the bedroom may lead to correct diagnosis.

TREATMENT.—Remove source of infection. Hygiène.

ATROPINE.

(See "Belladonna.")

BELLADONNA.

DIAGNOSIS.—Symptoms usually appear within from one-half hour to two hours, presenting marked dryness of the throat; hot, burning sensation; hacking cough, difficulty in swallowing; red, flushed, burning cheeks; giddiness, vomiting, extreme dilatation of pupils, with loss of vision and spectral illusions; delirium, often of a violent maniacal form; convulsions, stupor, coma, and death. There is often a bright scarlet rash over the body, and a desire to evacuate the bladder without the ability to do so.

DIFFERENTIATION from febrile affections by the pupillary dilatation and convulsions. Insanity and delirium tremens have been wrongly diagnosticated from the hallucinations, etc.

PROGNOSIS.—If patient survives more than twenty-four hours, recovery is probable.

TREATMENT.—Active emesis with sulphate of zinc, ipecac, mustard, or use stomach pump.

Hypodermatically, morphine and physostigmine (cautiously) are the physiological antagonists. Diffusible stimulants—coffee or caffeine; subcutaneously, ammonia. If respiration fails, artificial respiration must be maintained as long as the heart continues to act.

COCAINE.

Symptoms of poisonous effect are not infrequently noted after therapeutic use of cocaine, especially in those who have an idiosyncrasy for the drug, deaths having been reported from 0.15 to 0.50 cgm.

DIAGNOSIS.—Dizziness, nausea, vomiting, pallor, irregular and frequent pulse, excitement, hallucinations.

Prophylaxis.—In administering hypodermatically, see that preparation is fresh and pure; do not exceed 0.15 to 0.20 cgm.; do not give while patient is in horizontal position; avoid veins.
—RECLUS.

Add nitroglycerin to hypodermic solutions:

R	Cocainæ hydrochloratis	0.2
	Aquæ destillatæ	10
	Sol. nitroglycerini (one per cent) ...	gtt. x.
M.	S. For hypodermic use.	—GAUTHIER.

TREATMENT.—Elevated position and inhalation of amyl nitrite, nitroglycerin.

In spastic form, chloroform.

In respiratory paralysis, artificial respiration.

In psychical excitement, chloral.

In syncope, excitants.—POZZI.

CHLOROFORM.

In collapse from chloroform, give strychninæ sulphas, gr. $\frac{1}{10}$, subcutaneously every three hours or oftener.

Gr. $\frac{1}{2}$ in course of three hours.—REID."

Or, caffeine sodium benzoate, gr. v., in solution hypodermatically, repeated once or twice.

Or—

R	Camphor.....	gr. v.
	Sulphuric ether	℥ xx.
S.	Subcutaneously.	

Whiskey, atropine, artificial respiration, electricity.

COLCHICUM.

DIAGNOSIS.—Burning pain in throat and stomach and symptoms of irritant poisoning. Pupils dilated, urination painful, urine sometimes suppressed, convulsions, coma, death.

TREATMENT.—No antidote known. Emesis, demulcents, tannic acid, tea, coffee. Recumbent posture. Morphine for pain.

COPPER, ACUTE.

Acute poisoning may result from contamination of food kept in copper vessels or from alloy metals left in acid substances.

DIAGNOSIS.—It causes acute gastro-enteritis, severe cramps, and convulsions. The stools and vomit are bluish-green; urine is suppressed. Jaundice is said to be especially diagnostic.

TREATMENT.—Yellow prussiate of potassium is the chemical antidote. Emetics, diluent albuminous drinks, milk. Lavage with alkaline solutions.

COPPER, CHRONIC.

Slow poisoning may result from the continued ingestion of food contaminated with copper, as from the coloring material in candies, pickles, green peas, etc.; or from the inhalation of fine particles of copper by artisans.

DIAGNOSIS.—Acrid coppery taste, dry throat, coppery eructations, gastro-enteric irritation, tenesmus, emaciation, convulsions, death. Urine suppressed; sometimes jaundice appears.

CORROSIVE SUBLIMATE.

(See "Mercurial Poisoning," page 674.)

DIGITALIS, ACUTE.

DIAGNOSIS.—Acute poisoning is rare; it causes gastro-enteric irritation, dilated pupils with disordered vision, headache, delirium, vertigo, and paralysis. The pulse, at first slow and full, becomes rapid and feeble. Death from tetanic spasm of heart.

DIGITALIS, CHRONIC.

Toxic symptoms are usually the result of the cumulative action of the drug, causing prostration with tendency to syncope; slow, dicrotic, irregular pulse. On assuming the erect

posture the pulse becomes markedly accelerated, and sudden fatal syncope may result.

TREATMENT.—Absolute quiet; recumbent posture.

In acute cases give tannin, tea, or coffee at once. Aconite, strychnine, caffeine, diffusible cardiac stimulants.

Saponin, gr. i.-ii., is the physiological antagonist.—**BARTHOLOW.**

To prevent cumulative action, keep kidneys freely secreting and avoid overstimulation of heart.

HYOSCYAMUS.

The symptoms resemble those of belladonna. Treatment is the same. (See page 666.)

ILLUMINATING GAS.

The symptoms resemble those of asphyxia from any other cause. The blood becomes very dark, from oxygen deprivation.

TREATMENT.—Artificial respiration. Hypodermatic injections of nitroglycerin.—**KLOMAN.**

In desperate cases, venesection. Abstract from ten to twenty ounces of carbonized blood and infuse an equal quantity of normal saline solution.

IODOFORM.

Acute poisoning manifests itself in a variety of distinct forms:

(1) A type characterized solely by high temperature; (2) by high temperature with associated gastro-enteric irritation; (3) by serious cardiac depression with rapid and feeble pulse; (4) the same, with temperature elevation; (5) maniacal form—delirium, hallucination, or violent acute mania; (6) sudden collapse and death.

DIFFERENTIATION.—The first, and especially the fourth form,

occurring after operation may readily be mistaken for acute sepsis; the symptoms are almost identical. An examination of the urine will clear the diagnosis.

Test for Iodine in the Urine.—Add a few drops of fuming nitric acid (or chlorine water), a few cubic centimetres of chloroform, shake well. A violet-red is produced.

The third form resembles “internal hemorrhage,” especially when the temperature falls below the normal.

TREATMENT.—Remove all iodoform dressings; if possible, cleanse wound with ether; encourage renal excretion; give diffusible stimulants. Digitalis, if heart action is rapid. Potassii or sodii bicarbonas, gr. x., every hour.—PEABODY.

INSECT BITES, STINGS, ETC.

Many supposed “spider bites” are in reality caused by the pirate bug (*Rhasahus biguttatus*), producing cellulitis with central dark spot, about which a ten-cent-sized bulla fills with a dark grumous fluid.

Certain individuals are peculiarly susceptible to bee stings, and death has been reported from this cause as occurring within half an hour of the injury.—DAVIDSON.

The symptoms vary from the mild irritation of the commoner insects to severe and even fatal dermatitis and constitutional poisoning from the more venomous (tarantula, scorpion).

Honey in which the dead bodies of bees have been found has occasionally produced alarming poisonous symptoms.

TREATMENT.—Alkaline lotions; dilute ammonia or solution of sodium bicarbonate. Local application of formol.—GONIN.

℞ Ichthyol	1
Water	10

Or—

℞ Ichthyol,	
Water	āā 10

Or—

℞ Menthol	1
Sulphuric ether	10

Or, application of the menthol pencil. Or, formol.

Or—

℞ Acidi salicylici	1
Collodii flexile	20

Or—

℞ Hydrargyri bichloridi	0.1
Collodii elastici	100

Or—

℞ Bals. peru.	5
Ungt. styracis	25
Olei olivi	20
M. S. Apply.	

Or—

℞ Acidi salicylic	gr. iss.
Collodii flexile	gtt. xv.
Liq. ammonii	gtt. xlv.
M. S. Apply a drop to each bite.	

—LANG.

Spider bites :

℞ Corrosive sublimate	1
Water	100
Apply locally.	

—A. DAVIDSON.

The injection of a solution of potassium permanganate in the neighborhood of the bite is highly recommended.

LEAD, ACUTE.

DIAGNOSIS.—Burning pains and constriction sensations in throat, colicky pains in abdomen, whitish vomiting (chlorides), black diarrhoeal stools (sulphides), or constipation with retracted abdomen, collapse; or giddiness, stupor, coma. Sometimes a blue line on the gum is present in acute cases.

Headache and numbness followed in three days by hemi-

plegia have resulted from acute poisoning. After four weeks exaggerated tendon reflexes.—DA COSTA.

DIFFERENTIATION.—From cerebral hemorrhage due to renal cirrhosis by the examination of the urine, and the subacute, not sudden, onset in lead paralysis.

PROGNOSIS.—Recovery from lead palsy requires about four months.

TREATMENT.—After emptying the stomach of its contents by emetic of zinc sulphate, gr. xxx., give sodium-magnesium sulphate and again empty the stomach.

Or, potassium iodide.

Or, alum.

White of egg, milk.

LEAD, CHRONIC.

The circumstance that the patient's occupation predisposes to plumbism (printer, painter, plumber, smelter, etc.) is suggestive when recurrent attacks of acute abdominal cramps, attended with obstinate constipation, retraction of abdomen, and unusual sensations in the course of the colon, loss of appetite, and beginning emaciation, and in children ulceration of the mouth, are the prominent symptoms. When added to this we have a blue line along the junction of the gum and the incisors, a metallic taste, a fetid breath, a tongue furred and pale, and subsequent development of wristdrop or progressive paralysis of the forearm extensors, scarcely any other diagnosis will enter into question.

One hand may be affected with wristdrop for perhaps several weeks before the other.

It is well to remember that the peripheral neuritis not due to lead, affecting the musculo-spiral, may cause the same symptom. Paralysis of the laryngeal muscles has been reported.

The intestines may feel on palpation like coils of rubber tubing.

Disorders of sensation, formications, neuralgic pains, headache, amaurosis, single or double, or amblyopia of sudden onset, may develop. Motor disturbances range from tremor or convulsions to paralysis. In subjects of renal cirrhosis, cerebral hemorrhage may result. Often after the administration of potassium iodide traces of lead can be found in the urine. Administration of potassium iodide may set free sufficient lead salt to produce symptoms of acute poisoning.

DIFFERENTIATION. — Certain patients present rheumatoid pains about the joints, "lead arthralgia," relieved by firm pressure, which fact, and the absence of inflammation, distinguish it from arthralgia or rheumatism. Plumbism has no fever.

Epileptiform convulsions and attacks like apoplexy or other nervous disturbances, attended with tremor and amaurosis, may for a time confuse. When a limb affected with tremor is given support the tremor ceases. In doubtful instances diagnosis may be established by chemical test of the urine. Lead may be found by evaporating a quantity of the suspected urine in a porcelain dish in the presence of nitrate of sodium, adding fuming nitric acid, then distilled water and finally passing sulphuretted hydrogen gas which causes a black precipitate.

In differentiating between the wristdrop of lead poisoning and that due to paralysis of the musculo-spiral nerve, it is important to bear in mind that the former is bilateral and the power of supination remains, while in the latter this function is lost. "Pressure paralysis" affects the entire trunk of the musculo-spiral nerve.

The paralysis may extend and involve other muscles, such as the deltoid and triceps, but the intercostal muscles and usually those in the lower extremity are spared. In children drop-foot is not uncommon.

Cancer of the pylorus may be simulated. Exploration per rectum will show painful spasmodic contraction.

TREATMENT.—1. Remove source of poison. 2. Relieve colicky pains by the administration of belladonna and opium. 3. Relieve constipation by giving one grain of calomel every hour for five hours, to be followed by a full dose of Epsom salts and by rectal injections. If this should fail give croton oil. 4. To eliminate the lead, give potassium iodide in ten to twenty grain doses three or four times daily. 5. If patient is apoplectic, bleed. 6. If patient is anæmic, give iron. 7. Restore functions by the use of strychnine and electricity.—WOOD.

For those unable to give up their occupation, cleanliness of hands, especially in eating; meals not to be taken in the working-rooms. Frequent hot bathing and change of clothing.

Sulphuric-acid lemonade as a beverage.

Frequent purgation with Epsom salts, castor oil, etc.—E. C. HILL.

Opium acts as a purgative by relaxing the tetanic spasm. Hot sulphur baths.

(See also under "Colic.")

"Lead-colic pill" :

℞ Pulv. opii.....	gr. i.
Olei tigllii.....	gtt. i.
Ext. belladonnæ.....	gr. ½
M. One pill.	

—A. L. LOOMIS.

MERCURY, ACUTE.

Here, especially if corrosive sublimate has been the drug taken, there is a strong metallic, styptic taste, throat constriction, choking sensations, severe burning pain in the abdomen, tenesmus, diarrhoea, vomiting, perhaps bloody. Abdomen tender and swollen, tongue white and shrivelled, intense thirst, scanty urine, cramps in legs, stupor, convulsions, death.

In acute mercurialism, from too large or too frequent doses of calomel or other preparation, ulceration of the mouth, salivation with loosening of teeth, marked fetor of breath, soreness of

throat, and general debility, may come on rather abruptly. More severe symptoms, profuse salivation, necrosis and gangrene of the mucous membrane, bone necrosis, and death may occur; especially among children under bad hygienic conditions.

DIFFERENTIATION.—In mercurial colic the pain is increased by pressure, whereas in intestinal it is relieved.

<i>Arsenical Poisoning.</i>	<i>Mercurial Poisoning.</i>
Slight taste.	Distinct acrid taste.
Symptoms delayed.	Symptoms immediate.
Dejecta sometimes bloody.	Dejecta usually bloody.

Cancrum oris and gangrene may be mistaken for salivation.

TREATMENT.—*In acute*, after an emetic, give white of egg, flour and water, milk, magnesia, and the precipitate formed on adding some alkaline sulphate to a solution of sulphate of iron. Stimulants beneath the skin.

Caution.—Albumin forms an insoluble albuminate, but an excess of albumin redissolves this precipitate.—REESE.

In chronic, potassium iodide in small increasing doses. Chlorate-of-potassium mouth wash, or permanganate solution, or bichloride solution (1 in 1,000).

℞ Bichloride of mercury	1
Sulphuric ether	50
Alcohol.....	100
Swab for the mouth.	

—JOSEPH.

OPIUM—MORPHINE.

In toxic doses opium causes giddiness and drowsiness, soon followed by profound sleep, stupor, from which the patient is with difficulty aroused; finally, coma.

The pupils are markedly contracted; the pulse, at first slow and full, becomes rapid and feeble; respiration sinks gradually, is stertorous in character, and may be reduced to 3 or 4 a minute. Skin, at first warm and flushed, becomes cold and clammy, the countenance pale, the lips are livid. The muscles

relax, reflexes are abolished, and involuntary evacuations may occur. Urine is suppressed. Just before death the pupils may dilate, and convulsions occasionally occur. Occasionally one pupil is contracted while the other is dilated.

DIFFERENTIATION from apoplexy, as a rule, is not difficult. In hemorrhage into the pons Varolii, both pupils are contracted and the diagnosis becomes more difficult, but here paralysis comes on suddenly, is complete, the opposite half of face is usually affected (crossed-paralysis), and involuntary evacuations occur.

In alcoholic coma the contracted pupils dilate to reflex irritation.

In uræmic coma œdema is often present; examine the urine.

TREATMENT.—Potassium permanganate is the true antidote to opium and its alkaloids. The reaction between permanganate and morphine is instantaneous. One grain of potassium salt oxidizes one grain of sulphate of morphine, when brought into direct contact, as in the stomach shortly after the morphine has been swallowed.

It may also be administered hypodermatically in weak solution (1-100 to 1-500), and should be of benefit in any instance of narcosis, asphyxia, or cyanosis.—WILLIAM OVID MOOR.

Potassium permanganate, gr. vi., for each fluid ounce of laudanum taken; after which the stomach is washed out several times at intervals of half an hour, with weak permanganate, to decompose the morphine which has been absorbed and is being excreted in the stomach.—A. P. LUFF.

Atropine is the physiological antagonist. Gr. $\frac{1}{100}$ every ten minutes for six or eight doses.—PEABODY.

In threatened failure of respiration, strychnine, gr. $\frac{1}{30}$, hypodermatically. Repeat as necessary.

R Coffee,

Water.....ãã p. æ.

Make strong decoction. Inject thirty drops subcutaneously every ten minutes, when other methods are not available.

Stretch the sphincter ani with a bivalve speculum as often as the respiration flags. Keep patient moving about; flagellations, alternating hot and cold water affusions. Artificial respiration. Do not despair even if respirations decrease to 1 or 2 to the minute.—DAILY.

When all other methods fail, patient is cyanotic, and respiration low and stertorous, perform venesection; abstract from twenty to thirty ounces of the opium-charged blood, and infuse an equal quantity of saline solution—1 to 6,000.

(See also “Morphinism.”)

PHOSPHORUS.

DIAGNOSIS.—*Acute* phosphorus poisoning results usually from the ingestion of “rat paste” or an infusion of match heads. The first symptom is severe abdominal pain. Vomited matter, which is green and has garlicky odor, and stools are phosphorescent in the dark. The blood becomes very dark, and hemorrhages are common—hæmaturia, hæmatemesis, hemorrhagic stools, purpura. Jaundice occurs.

DIFFERENTIATION from acute yellow atrophy is sometimes difficult. Observe vomit and stools.

TREATMENT.—Albuminous and mucilaginous drinks. The best antidote is permanganate of potassium.

R Potass. permang.....	2-5
Aquæ.....	1,000
M. S. Half a pint to a pint and repeat in half an hour.	

Sulphate of copper is at the same time a chemical antidote and emetic; should be followed by magnesium sulphate to empty bowels.

Old French oil of turpentine is a good chemical antidote.

Caution.—With the above exception, all oils are *contraindicated* as being solvents of phosphorus.

Oxygen inhalations.

Chronic poisoning, presenting the above symptoms but in a less marked degree, results from the inhalation of the vapor in

match factories, etc. Onset insidious; first manifestation is often caries of teeth or necrosis of maxilla.

Prophylaxis.—The vapor of turpentine, carried in small bottles worn about the neck during employment.—SHOEMAKER.

PTOMAINS.

Poisoning may occur from eating meats, sausages, cheese, fish, mushrooms, mussels, oysters, ice cream.

Toxalbumin and ptomain poisoning occasion symptoms of altered salivary secretion, difficulty in swallowing, aphonia, constipation or diarrhoea, retention of urine, dilated pupils, double vision, squint, disturbed breathing and heart action.

In botulismus intoxication there is salivation, mydriasis, diplopia, strabismus, dysphagia, retention, respiratory and circulatory disturbances, and fatal ending with manifestations of bulbar paralysis. There is no temperature elevation; cerebral symptoms are absent.

TREATMENT.—Emetic, purgative, symptomatic.

In poisoning by fungi, such as poisonous mushrooms, give sulphate of zinc or use stomach pump. After emesis give castor oil. Hypodermatically use atropine and stimulants.

Since botulismus poisoning is regarded as the result of a toxalbumin, orrhoterapy would appear to be the rational treatment. Botulismus antitoxin is at present in its experimental stage.

STRYCHNINE.

DIAGNOSIS.—Toxic dose produces sense of uneasiness, twitching of muscles, jerking of limbs, jerky respirations, sense of impending suffocation; then tetanic intermittent convulsion of entire body, opisthotonos, widely dilated pupils, livid countenance, risus sardonicus, cyanosis. Convulsions last about thirty seconds, and are provoked by slightest peripheral irritation. Death from exhaustion or asphyxia.

DIFFERENTIATION from eclampsia (examine urine).

In tetanus there is often a history of previous trauma, onset

is gradual, face muscles are first affected (trismus), intermission is less marked, contractions are more prolonged, trismus is almost continuous, swallowing is usually impossible. Strychnine spasms affect the extremities first.

TREATMENT.—Absolute quiet; avoid all peripheral irritation.

The physiological antidotes are ether, chloroform, amyl nitrite, potassium bromide, urethan, chloral, and physostigmine.

Urethan is the best physiological antidote, and is powerful in controlling strychnine convulsions. Give 3 i. in water, 3 ii. hypodermatically, two or three times.—PEABODY.

Give ether or chloroform during spasm, and bromides and chloral to prevent recurrence.

Wash out the stomach with a decoction of eucalyptus globulus.—MUSMECIN.

Tannin. Artificial or forced respiration. Sustain heart.

If seen early, give tincture of iodine, twenty drops in water, every ten minutes, followed by emetic or stomach tube.—PEABODY.

TOBACCO.

DIAGNOSIS.—An acronarcotic poison, producing nausea, giddiness, vomiting, retching, prostration, diarrhoea, cold clammy skin, rapid feeble pulse, disturbed respiration, with a sense of oppression and of impending death, vertigo, great muscular weakness, collapse, death from paralysis of heart or respiration.

Enemata of tobacco and the local application of moistened tobacco leaves to the skin have produced death.

An unusually strong cigar or too many of them may cause nausea, vertigo, pale countenance, and a sense of oppression, followed by profuse sweating, even in the habitual “smoker.”

TREATMENT.—Evacuate stomach and give tannic acid and iodides as chemical antagonists. Give strychnine and diffusible stimulants—ether, ammonia, camphor. Alcohol in large doses. Artificial respiration. Dilute acetic acid and strong coffee are recommended.

In chronic tobacco poisoning, "tobacco habit," we have one or more of the following symptoms: follicular tonsillitis, bronchitis, dyspepsia, tachycardia, arrhythmia, "irritable heart," neurasthenia, muscular weakness, tremor, visual disturbances, scotoma, toxic amblyopia, etc.

TREATMENT is hygienic and symptomatic. Stop tobacco.

VENOM OF SNAKE BITES.

The diagnosis depends chiefly upon the statement of the patient or of an eye witness. The symptoms include marked depression, vertigo, cold extremities, dilated pupils, difficulty in breathing and swallowing, or actual paralysis of certain muscle groups, and vomiting.

Subsequently there is swelling of the injured part, resulting perhaps in abscess, and gangrene may supervene.

The physiologic effects of poisons secreted by different species of snakes are identical, according to Professor Calmette.

TREATMENT.—The chief reliance must be placed upon a ligature, bound as speedily and securely as possible between the part involved and the heart. The wound may be incised, suction applied, or cupping and cautery, or caustic ammonia.

The tourniquet or ligation of an extremity is always bad. If very recent, scarification and sucking of the wound, free incisions, and immersion in warm water to promote bleeding; apply gauze wrung out of hot antiseptic solutions; whiskey frequently repeated in stimulating doses, no more. Digitalis is sometimes necessary. Calomel and milk diet.—W. Q. MARSH, of Mexico.

Potassium permanganate in strong solution for local application, and for injection gr. i. in solution every hour.

In symptoms of exhaustion, strychnine, gr. $\frac{1}{30}$ – $\frac{1}{12}$, by hypodermic injection.

R Calomel gr. xxx.
Lemon juice..... 3 i.

Take every two hours for three doses.

—D'UTREA, of Brazil.

Caution.—Authorities state that lemon juice should not be taken by a person who is employing calomel.

Alcoholic stimulants in large quantities. This sustains while the poison is being eliminated.

Tourniquet first, free incisions second, permanganate of potassium third, Esmarch's bandage fourth, alcohol and digitalis last.—J. G. TUTEN.

Solution of caustic ammonia locally applied, a few drops in water internally, and thirty drops diluted with one to four parts of water injected into a vein.—ROTH.*

In serpent and scorpion bites, as well as those of the mosquito and gnat, applications of formol; after evaporation, a second coat is applied.—GONIN.

Rattlesnake Bite.—Excise the wound, if seen sufficiently early, and administer nitrate of strychnine.—J. F. BREWER.

Inject a ten-per-cent solution of chromic acid into the subcutaneous tissue around the wound.—KARLINSKI.

The Intermittent Ligature.—The early application of the Spanish windlass tourniquet beyond the injured part for a number of hours may prevent a fatal issue. The pressure may be very gradually lessened to restore the circulation by harmless degrees.

Serum Treatment.—Antivenin, perfected by Calmette by injecting into horses increasing doses of cobra venom mixed with decreasing quantities of a weak solution of calcium hypochlorite. Administer by intravenous injections from ten to twenty cubic centimetres of serum, and even more when the wound has been inflicted upon a person of large size by a dangerous reptile—as the rattlesnake. Calmette advocates injection, while Fraser believes in swallowing the venom.

Krait bite (*Bungarus cœruleus*, a most deadly Indian snake) was cured by the Calmette antivenin serum; locally and hypodermatically about the wound permanganate solution was employed.—S. J. RENNIE.

Macerate half a drachm of *Selaginella apus* (snake moss) in an ounce of sweet milk and give at once. Also apply some of the moss to the wound.—RAWLEY WHITE, of Virginia.

Poliomyelitis in the Adult.

Atrophic spinal paralysis in adults is not to be confounded with the anterior poliomyelitis of infancy, though the symptoms are similar.

There is scarcely ever a convulsion, however, at the onset, which otherwise is attended with marked signs in the acute form.

In the *subacute* variety gradual lack of power in the limbs is noted, followed by paralysis.

In the *chronic*, rare form there is usually pain and tenderness along nerve trunks, making the differentiation from neuritis difficult.

DIFFERENTIATION is also to be made from cerebro-spinal meningitis by absence of paralysis of cranial nerves, of psychical symptoms, of petechial eruptions, comparative freedom from pain, headache, and opisthotonos.

PROGNOSIS must be very guarded. Recovery is scarcely to be expected, though there may be partial recovery after the subacute form.

TREATMENT.—Massage, electricity, and among drugs, ergot and belladonna, have been advised for the early stages, while later mercury and the iodides may be given in small doses.⁷³

Prescribed exercise, diet, large doses of iodides, and as adjuvants strychnine and arsenic.—A. G. GRUNWELL.⁷⁹

Pott's Disease.

The diagnosis of this affection is difficult, according to Gibney, because of "the lack of confidence in one's opinion, the lack of courage in one's convictions, and the failure to make a

thorough examination." Pain, tenderness, faulty attitude are the symptoms usually present when the patient comes under the physician's care.

DIAGNOSIS.—The most characteristic and constant early symptom is rigidity, the result of reflex spasm. Preceding this there have been restlessness, disinclination to move about much, and a constant tired feeling. There may be an evening rise of temperature of one or two degrees, such as accompanies other tuberculous lesions, and exaggeration of reflexes. If deformity has already taken place, the diagnosis is not difficult. The fact, however, must be remembered that there may be a normal prominence opposite the sixth and seventh cervical and the first dorsal, as well as at the junction of the last dorsal and first lumbar vertebræ. A psoas abscess, with pus coming to the surface at some remote point, may be the first prominent symptom in a given case.

Radiating pains along nerve trunks of abdomen or extremities, giving sciatic-like or girdle-like pains about the waist, are among the early symptoms. Sudden arthralgia, especially in the knee, is apt to be mistaken for rheumatism.

Lumbar neuralgia may precede abscess by as much as two years.—GROGNOT.

DIFFERENTIATION.—Caries in the cervical region may simulate cerebral disease by reason of the acute pain, rigidity of the neck, retracted head, and grunting respiration. The latter symptom may suggest bronchitis or pneumonia, which is further brought into question by reason of manifest pain in the chest attended with cough, dyspnœa, and cyanosis. Both can be excluded by examination. In muscular rheumatism very often the spinal muscles show a stiffness which is more marked after a rest in bed. In case of doubt rheumatism may be excluded by treatment. Dr. Dillon Brown says: "Always examine the spine of a child who complains of persistent pains in the chest, abdomen, legs, or occipital region, especially if they be increased by movement and relieved by rest and support."

In the adult, according to Gibney, Pott's disease is to be distinguished from irritable spine with neurosis of the hip or knee, from railroad spine, hysterical spine, multiple osteomyelitis, fracture, rheumatic spondylitis, and malignant disease of the spine.

Malignant disease is excluded by the deformity and by the absence of local disability and local pain.—A. B. JUDSON.

Renal affections, thoracic or abdominal aneurism, subdiaphragmatic abscess, are also to be distinguished.

True rotary lateral curvature can usually be distinguished from caries without difficulty by attention to the following points:

1. The curve is rounded, not angular.
2. The rotation is always on the side of the convexity of the curve; in caries it may be on either side.
3. The limitation to motion is only in the direction which tends to straighten the curve; in caries it is in every direction.
4. Pain is usually absent, and, if present, local, and not at the periphery of the spinal nerves.
5. The curve is not diminished by rest in bed or by anæsthesia, as it is in caries.
6. It is frequently associated with other evidences of some central lesion, as atrophy of the mammary gland and non-deforming clubfoot.
7. There are no psoas contraction, no fever, no suppuration, and none of the other characteristic signs of spinal caries.

However, the diagnosis may be so obscure that only careful observation of the case over a long period of time will make it clear.—DILLON BROWN.

Rachialgia of hysterical origin or simply hyperæsthesia over the lumbar spinal region must not be too readily taken for evidence of Pott's.

TREATMENT.—*During the acute stage, recumbency. Trac-*

tion applied to the head and legs to quiet muscular spasm improves the position of the spine and hastens recovery.—LOVETT.

Efficient mechanical support of the spine is the prime factor in the treatment of caries of the spine associated with abscess.—BURRELL.

Sustain the general condition by measures indicated for other manifestations of tuberculous disease.—ROYAL WHITMAN.

At the first signs immobilize the child, keep up horizontal position, and advise seashore or country air. In winter, give cod-liver oil; in summer, antiscorbutic syrup, alternating every fortnight with iodo-tannic syrup. Fowler's solution, gtt. i.–iv., alternating as above with syrup of iodide of iron.

At long intervals replace above with:

℞ Potassii phosphatis (F. Ph.),	
Sodii phosphatis,	ãã 5 gm.
Syr. gentianæ.....	100 "
Elix. cinchonæ,	
Vini Malagæ.....	ãã 250 "
M. S. Dessertspoonful twice daily.	—PÉRIER.

In pressure paralysis, iodide of potassium is an excellent remedy, whose good effects are increased by combining proper support of the spine.—GIBNEY.

Proctitis.

In inflammation of the rectal portion of the intestine there are diarrhoea, characterized by tenesmus, frequent passages containing streaks of blood and mucus, pain in the left lower part of the abdomen, and tenderness or itching about the anus.

For an acutely inflamed rectum :

℞ Chloral hydrate.....	gr. xlv.–lxxv.
Tannic acid	gr. xxiv.
Lime water	O i.

S. One-fourth to one third of this quantity is to be mixed with twelve ounces of warm water or thin starch water, and five or six ounces injected into the rectum at a time and retained as long as possible.

—EWALD.

In ulceration :

℞ Cupri sulphatis,
 Morphinae sulphatis.....āā gr. ij.
 Quininæ sulphatis..... gr. xxiv.
 M. ft. pil. No. xxiv. S. One t.i.d.

—POTTER.

℞ Argenti nitratis..... gr. x.-xx.
 Aquæ..... O i.
 M. S. By enema.

—BARTHOLOW.¹³*In irritable ulcer :*

℞ Iodoformi gr. iij.
 Ol. theobrom q.s.
 Ft. supposit.

And internally :

℞ Sulphur. præcipitat.,
 Confect. sennæāā p.æ.
 S. Teaspoonful.

To relieve pain, unguentum stramonii, made from fresh leaves.—PHILLIPS.

Pseudo-Meningitis.

False or serous meningitis may occur after influenza or injury, and present symptoms of stiff neck, rachialgia, general hyperæsthesia, difference in pupils, irregularity of pulse and breathing, photophobia, etc., leading to the diagnosis of infectious cerebro-spinal meningitis.

Chronic hydrocephalus may develop.

Alcoholic pseudo-meningitis gives symptoms of meningitis, along with those of alcoholism.

DIFFERENTIATION from hysteria, from true meningitis, etc., by the temperature curve. The fever does not go or remain high, and bears no due relation to the severity of the symptoms complained of.—DESPLATS.

The symptoms are all less severe than in meningitis, and do

not develop with so great suddenness and severity as in ordinary leptomeningitis. In complicated instances lumbar puncture or puncture of the fontanelle may be required to distinguish the condition.

TREATMENT.—In the febrile hysterical imitation of meningitis, energetic suggestion in the waking state may be made that improvement begin at once.—THIBAUDET.

In delirium, etc., paraldehyde, 3 ii. per rectum.

In the alcoholic form with high fever, Brand tubbing.—COLLINS.*

(See Leptomeningitis.)

Psittacosis.

An infectious and usually fatal disease of parrots and other birds, developing especially after transfer by steamer to foreign lands, and transmissible to man.

DIAGNOSIS.—In the latter, after an incubation of from eight to twelve days, headache, pains in the muscles, and a temperature reaching 104° F. by the second day, are noted. After remaining at this point for three days, the fever usually goes down. Vomiting, diarrhoea (or constipation), delirium, and lung symptoms (bronchitis or, more commonly, lobular pneumonia). The local symptoms are, first, a slight *patch of œdema on the lips*; then, secondly, patches very similar to those of *diphtheria in the mouth* and pharynx.

DIFFERENTIATION is chiefly to be made from typhoid, which the early manifestations simulate. The diagnosis must rest upon the Widal reaction rather than upon the fact that a recently imported parrot has died in the house, with symptoms of drooping and diarrhoea after a two-days' illness.

In dilutions of one in ten the reaction occurs in both conditions, but from this up to one in forty a point is reached at which the psittacosis bacillus no longer reacts. The masses are also said to be smaller.

PROGNOSIS.—In the beginning of some epidemics the mortality has been about seventy-five per cent. Convalescence is prolonged. Children appear to be immune, while the old seem predisposed.

TREATMENT is largely symptomatic. Prophylaxis requires us to place the possessors of such pets upon their guard, especially in relation to the custom of feeding from the mouth, and particularly when the bird is sick.

Digitalis is useful because of its tendency to destroy the toxins of the diplococcus, and quinine for its internal antiseptic properties.—MARAGLIANO.

Pyæmia.

Though somewhat bordering upon the surgeon's realm, pyæmic conditions must oftentimes be combated by the physician.

DIAGNOSIS.—The vital powers are depressed, there are rapid pulse and a low type of fever, beginning perhaps with a chill and followed by profuse sweating. The temperature range is one of wide limit, the highest point being perhaps 108° F.

DIFFERENTIATION.—The association of diarrhoea and possibly cerebral symptoms with an adynamic fever makes differentiation from typhoid a necessity. The eruption of the latter is, however, absent, and finding deposits of pus in some portion of the economy tends to exclude typhoid, while it confirms the diagnosis of pyæmia.

Rheumatic fever may also be closely simulated by the involvement of several joints in successive swellings. The history of the two affections in the onset and early course is somewhat different, and the constitutional manifestations of septicæmia with its more pronounced exhaustion and rigors tend to exclude the rheumatic disease. The joint presents a deeper red color than is the case in rheumatism. Glanders at times strikingly simulates the pyæmic state. Examination of the nose for erosions and ulcerations, a ropy discharge from the nostrils, and

the offensive odor associated with marked glanders have something distinctive even in the absence of a history pointing to association with horses. When a jaundiced state accompanies pyæmia, the history of the case may have to be gone into carefully to exclude acute disease of the liver.

In septicæmia there is hyperleucocytosis, and in typhoid there is none, or indeed at times a diminution of the white corpuscles.

PROGNOSIS.—While septicæmia is often followed by recovery, that form known as pyæmic with metastatic abscesses is almost uniformly fatal. Partial recovery may follow the chronic variety, especially if continued reinfection can be prevented.

TREATMENT.—Disinfect the local source of pus poison. Maintain the strength with stimulants, which include alcohol, strychnine, quinine, an abundance of stimulating food.

Salicylate of sodium, guarded by sustaining doses of digitalis or strophanthus.

Pyelitis.

Pain in the loin constitutes the most frequent symptom. This may extend to both sides and radiate down the leg upon the affected side. Frequency of urination is another common symptom. The urine is pale, acid, and cloudy. Pus is found in the urine, at times in large quantities, settling as a thick creamy mass in the glass.

DIAGNOSIS.—Besides the symptoms above noted, there may occur rigors or shivering, with yawning and perhaps vomiting. Suppression of urine in a subject of renal colic due to stone, or with a history of calculous disease, is usually directly due to the stone, and often both kidneys are affected.

DIFFERENTIATION.—Cystitis may be simulated, but if, after withdrawing the bladder contents and washing out, another specimen of urine be taken soon afterward which shows pus, if

the pus is at all abundant, it is most likely of renal origin. The urine, too, is acid. By the cystoscope the pus can be seen to flow from the mouth of the ureter. Renal calculus is excluded by the absence of hæmaturia and of a history that a stone has been previously passed.

The presence of pus may continue to manifest itself for months or even years after apparent cure.

PROGNOSIS.—If pyonephrosis develops, operation is the only means of cure.

TREATMENT.—Rest in bed; bland diet; an abundance of pure water.

℞ Liq. potassæ..... 3 ij.
 Olei santali flavi..... 3 ij.
 Aquæ cinnamomi..... q.s. ad 3 viij.
 M. S. Two tablespoonfuls three times a day.

—SAUNDBY.

℞ Scammony,
 Calomel..... āā gr. iv.
 At dose.

Salol, gr. iii.–v., four times daily; or gr. i. every hour.

℞ Potassii bromidi,
 Sodii bicarbonatis..... āā gr. cix.
 Ext. belladonnæ..... gr. iv.
 Ext. buchu..... 3 i.
 Syr. sarsaparillæ comp..... q.s. ad 3 iv.
 M. S. 3 ss. t.i.d.

—PEPPER.

For the pain :

℞ Ext. belladonnæ..... gr. ½
 Ext. opii..... gr. ½
 Olei theobromæ..... q.s.
 As a suppository.

Dry cups over lumbar regions; hot fomentations.

In chronic pyelitis when pain is present :

℞ Venice turpentine..... 3 iss.
 Powdered camphor..... 3 iss.
 Extract of opium..... gr. v.
 Extract of aconite root..... gr. iiij.

Mix and make into twenty pills. S. One pill to be taken every eight hours, and at the same time a small glassful of infusion of uva ursi, slightly sweetened.

—ROBIN.

Or—

℞ Sodii benzoatis.....	3 i.
Syr. rubi idæi.....	℥ i.
Aquæ tiliaë.....	℥ iij.

M. S. Soup Spoonful in an infusion of buchu three hours after meals.

—DREYFUS-BRISAC.

Pyelitic hæmaturia :

℞ Ergotin.....	60 gr.
Gallic acid.....	7½ "
Syrup of turpentine.....	450 "
Linden water.....	1,800 "

M. S. A teaspoonful every hour.

The French *sirop de térébenthine* is made by digesting 10 parts of Strassburg turpentine in 100 of syrup.—ROBIN.

Methylene blue, gr. iss.—iii., in capsule, three times daily.

Rabies.

After an incubation of from several weeks up to six months, the subject, bitten by a rabid animal, in the first or melancholic stage, which lasts two or three days and follows a prodromal period of the same duration, is depressed and irritable. He shows signs of fear and sensitiveness to draughts of air, strong light, and sounds. While thirst is present, attempts to drink often result in painful spasms of the laryngeal muscles.

In the second or spasmodic stage the spasms may be of convulsive nature, with struggling, gasping, difficult breathing. The facies is expressive of intense fear or mental suffering, and froth appears about the mouth.

After about three days the third or paralytic stage begins, marked by great cardiac weakness, and death may occur from heart failure or terminate a severe convulsion.

DIFFERENTIATION from tetanus by the latter's shorter incubation, higher temperature, tonic or clonic rather than convulsive spasm, absence of anxiety, and presence of risus sardonicus.

PROGNOSIS.—Recovery may frequently follow the early em-

ployment of Pasteur's attenuated virus, by which the mortality has been very greatly reduced.

It is estimated that, in bites upon the face, without treatment eighty-two per cent will prove fatal; and with treatment, eighty per cent are curable.—KEIRLE.

A fatal termination always occurs after from two to seven days.—J. H. ANDERSON.

On the fourth or fifth day.—F. W. A. FABRICIUS."

TREATMENT.—*Local Treatment of the Wound.*—Facilitate bleeding by ligature and cupping-glass. Cauterization with caustic potash or carbolic acid. Excision of the wound.

Treatment of the Developed Symptoms.—Quietness and nourishment by the bowel. Chloral and morphine for restlessness. Chloroform for convulsions.—J. H. ANDERSON.

Caution.—Do not administer sufficient narcotic poisons to produce death and attribute the results to rabies.

I am satisfied that it would be better to administer no medicine at all than to continue the pernicious practice of giving morphine, atropine, chloral, bromides, and chloroform. Narcotics have never rescued a single person from death.—CHARLES W. DULLES.

In heat we have an agent capable of counteracting the poison of rabies. Hot water should be applied, especially in the form of Turkish baths.—C. H. SHEPARD.

Inoculation treatment in special institutes, according to the methods of Pasteur or Babes (Babes-Tizzoni).

During the past fifty years about one thousand instances have been reported in this country, in many of which the diagnosis is often doubtful.

Many practitioners deny the existence of such a disease.

There is no specific disease hydrophobia. Septicæmia, the result of a bite from a rabid animal, differs in no degree from that produced by a sane one.—C. W. DULLES.

Rachitis.

Rickets varies in its manifestations as it occurs alone or in combination with scorbutus and hemorrhagic manifestations, as seen in Barlow's disease.

The early detection of rachitism is of the greatest importance. It is characterized by abnormality of bony development in early childhood.

DIAGNOSIS.—The early symptoms embrace fretfulness and sweating, especially about the head and neck, at night or when asleep; sudden awakening with fright. The abdomen becomes distended, but the body emaciated. Rubbing the back of the head on the pillow may cause the hair to become worn off in the occipital region. Hydrocephalic symptoms are common. In infants the cranium shows the first bone changes.

When the disease has existed long enough for the signs to become typical of an established rachitis, we find the face of small size, the cheek bones prominent, the fontanelles open, the breast pigeon shaped, the ribs beaded, the abdomen protuberant, the epiphyses of the bones at the wrist thickened and causing deformity, the spine curved, the legs bowed, the muscles and ligaments relaxed. It is in the early stage that we must detect beginning cases. Then symptoms are not present in characteristic groups. Constipation, the occurrence of laryngismus stridulus or bronchitis following slight exposure, slow closing of fontanelles, late eruption of the teeth, distended veins over forehead, convulsive tendencies, spasms without fever, or splenic tumor—any of these should cause us to suspect rickets in artificially fed infants, and lead us to watch for other and confirmatory signs.

DIFFERENTIATION.—Hydrocephalus is distinguished by the tense anterior fontanelle, choked disc as shown by the ophthalmoscope, disturbance of speech, etc. Congenital lues by the earlier development of inflammation of the heads of the long

bones in syphilis, at about the fourth or fifth week of life; and by concomitant signs on the part of the skin and mucous membranes. Pott's disease in advanced stages by its conical "hump," while that of rachitis is round.—STERLING.

Acute epiphysitis may be mistaken for rheumatism, while cranial tabes, constipation, and sweating point to the actual condition.—CAILLÉ.

TREATMENT.—

℞ Phosphorus..... gr. $\frac{1}{100}$
Cod-liver oil..... $\frac{3}{4}$ ij.
Saccharin..... gr. lxxv.
Essence of lemon..... gtt. ij.
M. S. A small teaspoonful may be taken daily.

—MARFAN.

Or—

℞ Phosphori..... gr. $\frac{1}{4}$
Ol. oliv. (refined)..... 3 i.
Sacch. alb.,
Pulv. acaciæ..... āā $\frac{3}{4}$ ss.
Aquæ dest..... q.s. ad $\frac{3}{4}$ ij.
M. ft. emuls. S. Dose, 3 i.

Or—

℞ Phosphori..... 0.01 cgm
Olei amygd. dulc..... 30 gm.
Pulv. sacch. alb.,
Pulv. gummi arab..... āā 15 gm.
Aquæ dest..... 40 gm.
M. S. Teaspoonful at dose.

—METTENHEIMER.

Or, *iodo-phosphorated butter*, to be used as a substitute for cod-liver oil in hot weather:

℞ Fresh butter..... $\frac{3}{4}$ xviiss.
Iodide of potassium..... gr. iv.
Bromide of potassium..... gr. xv.
Chloride of sodium..... 3 ij.
Phosphorus..... gr. $\frac{1}{4}$
M. About one-third of an ounce daily, spread on bread.

—TROUSSEAU (modified by COMBY).

Modified milk. Pasteurized milk, especially with the addition of oatmeal, barley, animal broths, etc.

℞ Syr. calc. lactophosphat..... 100
 Ferri citro-ammon. pyrophosphat..... 1
 Aquæ dest.....q.s. ut sol.
 M. S. A dessertspoonful one to three times daily.

—D'ESPINE AND PICOT.

Or—

℞ Aquæ calcis,
 Syr. calc. lactophosphat.....āā 1 part.
 Olei morrhuæ..... 2 parts.

—J. LEWIS SMITH.

Or—

℞ Potass. iodidi 4
 Syr. aurant. cort.,
 Aquæāā 100
 M. S. Two to eight teaspoonfuls daily.

—DESCROIZILLES

Or—

℞ Tinct. iodi..... 1
 Syr. gentianæ..... 100
 M. S. Two to ten teaspoonfuls daily.

The most important remedy to-day is phosphorus.

℞ Phosphori..... 0.01
 Ol. morrhuæ..... 100
 M. S. Teaspoonful twice daily.

℞ Phosphori 0.01 cgm.

Dissolve in :

Ol. amygd. dulc 10 gm.

Add :

Pulv. gum. arab..... 5 gm.

Syr. simplicis 5 gm.

Aquæ destil 80 gm.

S. One teaspoonful daily, below the age of one year ; from the twelfth to the fifteenth month, two ; and over two years of age, four teaspoonfuls.

Each teaspoonful contains half a milligram of phosphorus.
 —KASSOWITZ.

Careful regulation of diet, modified milk to suit age of child,

animal broths, keeping patient out of doors, and small doses of oleum phosphoratum combined with oleum morrhuæ.—GRAHAM.

For the anæmia:

℞ Tinct. ferri chlor.,
 Ferri pepton.,
 Tinct. rhei vinos. (Aust. Ph.).....ss 20
 Potas. acetat.∴..... 10
 Vin. antimon 5
 M. S. Five to thirty drops three times daily.

—STERLING.

Rickets in the negro is frequent. Cod-liver oil is advised for the winter; syrup of hypophosphites in summer.—ACKER.

℞ Phosphori gr. i.
 Alcoholis absoluti..... 3 v.
 Glycerini..... 3 iss.
 Alcoholis 3 ij.
 Spir. menthæ pip ℥ xl.

Dissolve the phosphorus in the absolute alcohol with the aid of a gentle heat; then add to it the glycerin, alcohol, and spirit of peppermint, previously mixed and slightly warmed. Each fluid drachm contains nearly $\frac{1}{20}$ gr. of phosphorus.—J. ASHBURTON THOMPSON.

The elixir phosphori is a more palatable preparation, and preferable to Thompson's solution.—RICE.

Food rich in fat and proteids, cream, butter, the white of egg, orange juice, cod-liver oil, syrup of lactophosphate of lime, glycerole of iron.—I. W. FAISON.

In the laryngeal spasm of rachitis, phosphorus.—SENATOR.

Thyroidin "Merck," 0.10 cgm., every second day; then every day for several months, if continuous control over patient can be exercised.—HEUBNER.

Dyspepsia is the bond that unites rickets with convulsions.

Intestinal antisepsis (see "Dyspepsia"). Salt baths.

Regulation of the diet is the principal remedy, but it is a mistake to believe that food which does not disturb the bowels is for that reason alone a sufficient nutriment and safeguard.—

A. JACOBI.

Rheumatism, Acute.

It is chiefly by the involvement of many joints in succession, and especially the larger ones, that rheumatism is distinguished from gout. Rheumatic fever is further differentiated by the recurrent and abundant acid sweating and the comparative frequency of cardiac involvement. A large proportion of attacks are preceded by tonsillitis. If a person is morbidly sensitive to damp and cold, and if his susceptibility is shown by the development of pains in his joints and fascia, etc., he is rheumatic; if, on the other hand, he is sensitive to food, and if certain articles of diet produce joint pains, etc., then he is gouty.—HUTCHINSON.

DIFFERENTIATION.—Pyæmia is somewhat simulated, but here cutaneous abscesses are common, and when the inflammation has subsided over the joint the integrity of the latter is often found impaired. Acute synovitis comes also into question, but here it is one joint which swells after exposure and possible trauma, while in acute rheumatism the joints become implicated one after another, and the acrid sweat with severe constitutional symptoms makes the nature of the case clear. In phlegmasia alba dolens it is a female subject usually who complains of tenderness in a particular portion of the lower extremity, often the calf of the leg, and there is a history of preceding disease or pregnancy to guide us.

In syphilitic joint involvement characterized by pain and tenderness, there is not a condition of actual acute inflammation, and a history of specific infection may be elicited. Likewise in gonorrhœal arthritis, coexisting urethral inflammation points to the origin, and it is usually a single large joint in which the inflammatory process becomes localized for a considerable length of time. Osteomyelitis is a condition too often mistaken for rheumatic joint disease when the portion of the bone affected is in close proximity to a joint. The painful swell-

ing is here of sudden onset, but pyæmic symptoms are often superadded. Likewise in acute periostitis the tender tissues near the joint may closely simulate rheumatism. Pitting upon pressure and the early development of signs of fluctuation may prevent a wrong diagnosis. Joint inflammation of trophic origin, as in central nerve affections, is usually differentiated by concomitant signs arising from the more deeply seated disease.

Thermal baths have a differential diagnostic value. After six or seven baths rheumatics are made worse and gouty subjects have a typical attack. This almost constant effect serves to distinguish these from similar painful affections of different nature.

In children the tendons of the hamstring muscles are often involved and the child walks in a characteristic way on the toe tips with bent knee to relieve tension.—CHEADLE.

Prophylaxis requires careful attention to the throat and the use of salicylates at the first sign of tonsillitis.—W. H. THOMSON.

TREATMENT.—

℞ Acidi salicylici..... 3 iij.
 Sodii bicarbonatis..... 3 ij.
 Glycerini,
 Aquæ.....āā 3 vi.

M. S. A tablespoonful every two hours for the first day, then every four hours.

Caution.—In inactivity of the kidneys, especially in pregnancy and in rheumatism complicated by albuminuria, salophen or other drug should be substituted for salicylic acid. The latter is to be suspended if delirium occurs. Too persistent use of the drug may hasten heart complication.

℞ Phenocoll. hydrochloratis..... 3 ij.
 Aquæ destil..... 3 iv.

M. S. Tablespoonful in water three times daily continuing for a few days after the pain has subsided.

—OLNY.

Sodium salicylate is much more efficacious if administered while baths from 100° to 105.8° are being given each morning.
—MORITZ.

Improvement is more rapid and without complications under:

℞ Salophen..... 3 ij.
M. ft. cht. No. xii. S. To be given within the first twenty-four hours, subsequently reducing the dose.

—B. H. WATERS.

℞ Salophen..... gr. xv.
Three or four times daily.

In acute and subacute rheumatism in which there are considerable involvement of the muscles and also great pain:

℞ Phenazon (antipyrin)..... 3 ij.
Sodii salicylatis..... 3 iij.
Ammonii bromidi... .. 3 iv.
Aq. cinnamomi..... 3 iij.
M. S. A teaspoonful every three or four hours.

—ESHNER.

When other salicylates disagree with the stomach, strontium salicylate, gr. x.-xv., gives the same results.

Caution.—In acute joint rheumatism with visceral complications salicylic acid does not cure or prevent these manifestations and may favor their occurrence, especially cerebral accidents.—JACCOUD.

℞ Liq. potassii arsenitis..... 3 i.
Potass. iodidi..... 3 iij.
Sodii salicylatis..... 3 iv.
Tinct. gentianæ comp..... 3 i.
Syr. sarsap. comp..... q.s. ad 3 iv.
M. S. Shake well. Teaspoonful three times a day after meals in one-third glass of water.

—RICHARDSON.

For sweating, cimicifuga in small dose.

An agreeable salicylate mixture:

℞ Potassii acetatis..... 3 ij.
Acidi salicylici..... 3 ss.
Syrupi limonis..... 3 ij.
Aq. menth. pip..... 3 viij.
S. Tablespoonful every three hours.

℞ Acetate of potassium,
 Nitrate of potassium.....āā 5 parts.
 Distilled water 200 "
 Syrup of raspberry..... 20 "

M. S. A teaspoonful to be given night and morning. The affected joints are to be painted with tincture of iodine, covered with cotton, and kept absolutely motionless.

—BILLROTH.

Essence of wintergreen.—I. ADLER.

Or, injection of Marmorek serum.—GROEDEL.

Guaiacum is useful in chronic as well as in some forms of acute rheumatism and in gout.—W. HOWSHIP DICKINSON.

Alkalies until the urine is about neutral; then salicylic acid.

In subacute:

℞ Sodii salicylat..... gr. x.
 Potassii iodidi gr. v.
 Vini colchici sem ℥ viij.
 Syrupi,
 Aquæāā 3 ss.

M. S. For one dose. To be repeated every three or four hours.

When there is much fever, aconite may be cautiously added with advantage.—E. G. TUFFS.

Salophen, gr. xv. every four hours. This is free from danger.—PEARSE.

In the acute form and in those predisposed to anæmia :

℞ Sodii salicylatis..... 3 iv.
 Tinct. ferri chloridi..... 3 iv.
 Acidi citrici gr. x.
 Glycerini ʒ ss.—iss.
 Ol. gaultheriæ ℥ x.—xxx
 Sol. ammon. citr. (B. P.).....q s. ad ʒ iv.

M. S. 3 ii. in water every two, three, four, or six hours.

—S. SOLIS-COHEN.

Salicylic acid obtained from the vegetable kingdom, given without alkali or base, gr. xl. to gr. lxxx. daily for ten days. Milk and farinaceous food, keep bowels open.—LATHAM.

℞ Potass. nitratis gr. ix.
 Sodii et potass. tartratis..... gr. xv.
 Extr. colchici fluidi gtt. iij.
 Aquæ.....q.s. ad 3 i.

M. S. At dose.

Or tinct. actææ racemosæ (from North American plant), ℥ i .
Gtt. iv. every two hours, increasing until forty or fifty are
taken.—HEWELKE.

The best way to give alkalies is to give bicarbonate of sodium
persistently in drachm doses as often as practicable until the
urine becomes alkaline.—BISHOP.

℞ Potass. bicarb. gr. x.
Tinct. digitalis. gtt. v.
Aquæ. q.s.
M. S. Every two hours.

Cover the parts with cotton dressing.

As an analgesic, Dover's powder.—W. HENRY.

When salicylic acid causes anæmia, add iron thus:

℞ Acidi salicyli gr. xx.
Ferri pyrophosphatis gr. v.
Sodii phosphatis (crys.) gr. l.
Aquæ. ℥ ss .
M. S. At a dose.

This gives a clear cherry-red solution, without precipitate.—
PEABODY.

Squibb formula for sodium salicylate :

℞ Acidi salicyli gr. 437
Sodii bicarb. gr. 270
Aquæ (free from iron) ad ℥ vi .
 ℥ i . equals gr. x. of sodium salicylate.

Locally:

℞ Veratrini,
Hydrarg. iodidi virid. $\text{āā } \text{℥ i}$.
Petrolati ℥ i .
M. S. Apply over joints affected.

—HARE.

Or—

℞ Salicylic acid,
Oil of turpentine. $\text{āā } \text{℥ ss}$.
Lanolin,
Lard $\text{āā } \text{℥ iv}$.
M. S. Apply to joints without friction.

—BOURGET.

R̄ Salicylic acid 3 v.
 Proof spirit..... ʒ iij.
 Castor oil..... ʒ viij.
 Chloroform..... 3 iv.
 M. S. Apply by means of steeped compresses and cover with oiled silk.
—RUEL.

Salicylic acid should appear in the urine within twenty-four hours.

Or, surround the joint with lint moistened with one or two teaspoonfuls of oil of gaultheria; surround this with a gutta-percha sheet and apply a bandage.

Or—

R̄ Salol,
 Sulphuric ether.....āā 3 i.
 Collodion..... ʒ i.
 To be applied around the joints.

—HEBBING.

Cold applications to the joints afford immediate relief. Wring out heavy towels in ice water, wrap about joint, and cover with flannel. Renew till cure is effected.—FRAUNFELTER.

Or, carbolic-acid solution (four per cent) applied warm on flannel.—HANCOCK.

Or—

R̄ Guaiacol,
 Glycerināā p. æ.
 Apply and cover with tissue.

—FERRAND.

Or—

R̄ Ac. salicylic 15 gm.
 Turpentine..... 15 "
 Lanolin..... 15 "
 Lard..... 125 "
 Apply over the joint and put on a flannel bandage.

In rheumatic endocarditis, potassium or sodium iodide, gr. x. t.i.d., in addition to salicylates, and a succession of small blisters over the apex with prolonged rest in bed.—CATON.

If pericarditis or pleuritis occurs, ice bag influences the process favorably as well as giving relief from pain.

In children, nepenthe (strength of tr. op.) in frequent small dose.

In older children showing heart failure, strychnine and digitalis hypodermatically.

In children, all depressing drugs, such as antipyrin, aconite, etc., are strongly deprecated.

Cardiac inflammation is less frequent and less pronounced under full alkaline treatment.

Sodium salicylate in small dose at short intervals. Or salicin, gr. v.-xx. Or quinine, gr. i.-iii., every four hours, with sodium citrate, gr. v.-xx.—M. B. CHEADLE.

℞ Sodii salicylatis	3 iss.
Potassii iodidi	3 ss.
Tinct. aconiti	gtt. x.-xv.
Aquæ	℥ ij.

M. S. One drachm t.i.d.

—CAILLÉ.

For the gonorrhœal form see "Arthritis" (gonorrhœal), page 75.

Rheumatism, Chronic Articular.

Chronic or subacute rheumatic arthritis has usually but little swelling about the joints, although stiffness is a marked symptom, especially after rest, as in the early morning and in wet weather. It is often a nice distinction which has to be made between the pains due to gout or a complicating neuritis and those due to the arthritis.

DIFFERENTIATION from gouty, gonorrhœal, and traumatic arthritis is made by the numerous joints implicated; from gout also by the absence of early involvement of the smaller joints, and especially that of the great toe; from osteo-arthritis by no permanent alteration following the joint pain and stiffness.

PROGNOSIS.—Although improvement follows the acute exacerbations, the process goes on indefinitely; still for a long time the symptoms may be slight. Deformities are apt to occur.

TREATMENT.—Salicin, gr. xx. every two hours until relief

from pain, then the same dose three times daily. Avoid over-taxing digestion. Hydrotherapy and massage when possible.

—L. F. BISHOP.

℞ Potassii iodidi 3 iij.
 Vini colchici sem.,
 Tinct. opii camph. 3 ij.
 Tinct. stramonii. 3 vi.
 Tinct. cimicifugæ. 3 iij.
 M. S. A teaspoonful thrice daily.

℞ Liq. potassii arsenitis 3 ij.
 Potass. iodidi 3 ij.
 Syr. simplicis 3 iij.
 M. S. 3 i. t.i.d. p.c. in water.

—DA COSTA.

Tincture of colchicum, ten drops one hour before dinner for eight days, then none for a week.—SIMON.

In the progressive subacute form, lithium salicylate gives better results than sodium salicylate.—VULPIAN.

Dry hot-air baths at temperature of 250° to 300° F.—ALFRED WILLETT.

By means of a copper cylinder dry air can be regulated up to 320° F. for from forty to sixty minutes, and pain and stiffness in time be entirely relieved.—REED.

Or the Tallerman-Sheffield localized hot-air apparatus can be used to fit any part. It may be used when Turkish baths are out of the question.—W. K. SIBLEY.

The hot-air bath I use is a very neat-looking piece of office furniture. It is an oxidized metal cylinder, thirty inches long, fourteen inches high; a funnel and pipe of the same material carries hot air from a nickel-plated heater to a hot-air distributor. There is no smoke or smell. By means of several valves the heat can be regulated. A thermometer registers the amount of heat. The cylinder is lined with asbestos; arm or leg rests in a Turkish hammock. There are attachments for arms, legs, and other regions.—G. M. BLECH."

Gentle massage of joints involved is beneficial, especially in long-standing cases with beginning contractures.

Scotch douche gives better results than any other form of hydrotherapy.—SCHÜLLER.

Salicylate of methyl applied locally during painful paroxysms, acts at times as well as salicylates when given by the mouth.—LANNOIS AND LINOSSIER.

The advantages of the above are that it acts more rapidly in controlling pain, symptoms of intolerance are exceptional, irritation of stomach is avoided, and a more marked effect is produced upon the associated neuralgia.

The usual dose is about eight to ten grams of a solution of oil of wintergreen in spirits containing forty per cent of salicylate of methyl.—LEMOINE.

Woollen clothing and especial attention to the diet, with meat as a foundation, together with eggs, fish, vegetables, butter, and cheese; especially milk. Water is the best beverage; alcohol and the carbohydrates should be much restricted, moral depression avoided; a journey may be found beneficial in some cases. Fever must be combated by repose in bed and restricted diet; local pains and swellings by Priessnitz compresses, liniments, or salves containing opiates, or by injections of morphine. Absorption is hastened by painting with iodine. Puncture is useful in severe swellings; so, too, the elastic bandage. Some observers find salol beneficial; others prefer antipyrin, acetanilid, phenacetin.—OTT.

Rheumatism, Muscular.

Myalgia usually follows exposure, and the pain, generally described as dull, may be of a more acutely burning nature, greatly aggravated by motion. One set of muscles after another may become involved. One form has been treated of under "Lumbago" (see page 521); another form under "Torticollis"; another under "Pleurodynia."

DIAGNOSIS depends largely on the increase of pain by activity of the muscles and relief by rest.

DIFFERENTIATION.—Neuritis is probably present (perhaps as

a complication) if both sides are implicated; if the pain is intensified at night under the influence of warmth and rest, and relieved by moving about in daytime.

TREATMENT embraces such measures as rest, warmth, massage, electricity, and drugs of the salicylic-acid group especially. Massage is of decided value. Salophen in dose of ten grains.

℞ Extr. cimicifugæ fld.,
 Extr. erythroxyli fld.,
 Tr. guaiac. ammon.....āā ʒ ss.
 M. S. A teaspoonful three times a day.

℞ Sodii salicylat..... ʒ ss.
 Potass. iodidi,
 Methyl salicylat.....āā ʒ i.
 Extr. cimicifugæ fld..... ʒ ij.
 Spir. vini rect..... ʒ ss.
 Aquæ.....q.s. ad ʒ iiij.
 M. S. Teaspoonful t.i.d. —*Pittsburg Free Dispensary.*

Locally :

℞ Ol. gaultheriæ,
 Spir. chloroformi.....āā ʒ ss.
 Lin. saponis..... ʒ iiij.
 M. S. Rub in freely and apply cotton batting. —*HATFIELD.*

℞ Tincture of aconite..... ʒ i.
 Camphor..... ʒ ij.
 Chloroform..... ʒ ij.
 Oil of cajuput... ʒ ij.
 Tincture of capsicum..... ʒ ij.
 Rectified spirit.....q.s. ad ʒ vi.

Most of the well-known "pain killers" are combinations in various proportions of aconite, turpentine, chloroform, ether, alcohol, and capsicum.—*WILLIAM MURRELL.*

"*Perry Davis' pain killer*" is supposed to have the following composition:

℞ Tinct. capsici..... ʒ i.
 Spir. camphoræ..... ʒ ij.
 Guaiaci resin..... ʒ ss.
 Alcohol..... ʒ iiij.
 Tinct. myrrhæ.....q.s. ad col.
 —*POTTER.*

“Radway’s ready relief”:

℞ Tinct. capsici,
 Aquæ ammoniæ,
 Alcohol.....āā ʒ i.
 Lin. saponis..... ʒ iij.
 —HAGER.

“St. Jacob’s oil” is a weak aconite liniment containing ether, alcohol, turpentine, and red coloring matter.—
 SQUIBB.

Linimentum anodynum (“Jacob’s oil”):

℞ Camphoræ,
 Chloralāā ʒ ij.
 Chloroformi,
 Ætheris fortioris.....āā ʒ ij.
 Tinct. opii,
 Olei sassafras.....āā ʒ i.
 Linim. saponis.....q.s. ad ʒ xvi.
 M.

℞ Chloroformi puri ʒ v.
 Tinct. opii,
 Acidi salicylici.....āā ʒ iv.
 Spir. vini rect..... ʒ iv.
 Olei dulcis.....q.s. ad ʒ xij.
 M. S. Rub into the parts thoroughly or apply by means of flannel cloths.
 —MANLEY.

℞ Ammon. bromidi..... gr. x.-xx.
 T.i.d.

℞ Salol,
 Phenacetin,
 Quininæ sulphatis.....āā 3
 M. ft. capsul. No. xv. S. One three or four times a day.

This is also of use in aborting quinsy and in the treatment of tonsillitis, which may be part of the same infectious process.

Rubella.

German measles or rötheln bears somewhat the same relation to measles that varicella does to variola. Though occurring mostly in epidemics, it is seen with some degree of fre-

quency as a sporadic affection; not infrequently in children who have recently recovered from true measles. The prodromal stage may be said to be wholly lacking, the incubation period having extended through from five to twenty-one days.

DIAGNOSIS.—The eruption, occurring upon the trunk or inner surfaces of the arms at first and upon the face afterward, is in the form of punctate lesions resembling dots made with a fine pen dipped in red ink. The color may vary from pale rose to deep red. Larger spots occur, reaching a diameter of as much as a centimetre, being lighter at the centre than at the periphery, and usually with irregular outline or presenting an indented border. Spreading occurs rapidly, the eruption reaching the limbs perhaps within a few hours. It has been stated that the palms and soles escape, but this is by no means the invariable rule. The appearance of the eruption varies greatly in different subjects and in different epidemics. In some almost all instances will be of a scarlatiniform type; in another, morbilliform. Some claim that the face is first invaded. A peculiarity of the spread which has been regarded by some as pathognomonic is the rapid invasion of one region after another, with almost complete disappearance of any trace in the region last invaded when the eruption is at its maximum in the new territory.

The pharynx is of a diffused red, the tongue normal or covered with a thick white coating, through which the papillæ show much as in the tongue of a scarlatina in the early stage. The buccal membrane is usually of almost normal hue. There is little fever, 101.5° F. highest at the onset. Probably the most important symptom is enlargement of the cervical lymphatic nodes, as well as those over the mastoid process and along the margin of the sterno-cleido-mastoid. An early symptom is tenderness elicited upon pressure over the jugular or subauricular lymphatic nodes. While not pronounced, this is quite constant.

DIFFERENTIATION.—Rubeola naturally presents the most

similarity. There should, however, be little difficulty, since even mild types of measles present quite distinctive points. The eruptive stage, for instance, is much longer, since often in r  theln all traces are gone within twenty-four hours, the whole process being terminated in three or four days. The eruption in measles tends more to run together, with no intervening healthy skin, and the lesions do not show so much variety in form. It is only in the rarer instances of r  theln, which present spots of rather uniform pea size with tendency to grouping, that measles is at all closely simulated. The chief distinction, however, must lie in the presence or absence of the buccal-membrane lesions described in the chapter on measles (Koplik's pearly points).

Scarlatina, as already mentioned, may be closely simulated, especially in isolated instances occurring in the absence of epidemic prevalence and attended with pronounced angina, and with an invasion period exceeding twelve hours. The eruption is, however, rarely so vividly red as in scarlatina, but petechi   or purpuric spots may exist. The tongue rarely desquamates or takes on the vivid red color seen in scarlet fever.

Idiopathic roseola is distinguished by the absence of papular features, the tendency to confluence, and the absence of mouth lesions.

Drug eruptions are excluded by the absence of history of antipyrin, phenacetin, salophen, copaiba, quinine, or similar drugs having been taken.

Urticaria is excluded by the absence of distinct wheals and the presence of a more or less intense angina.

TREATMENT is for the most part symptomatic, and much the same as that given in the chapter on rubeola.

Under the designation of

THE FOURTH DISEASE

Dukes has described⁷⁶ a condition closely resembling rubella, but regarded by him as differing from it as well as from

measles and scarlatina. The bright, rosy-red eruption which invades the entire surface within a few hours is somewhat raised above the level. The fauces have a red, velvety appearance. The conjunctivæ are pink and suffused. The glands are less markedly enlarged than in rubella, but the submaxillary may remain swollen for some time. Desquamation may be slight or marked, but bears no constant relation to the intensity of the rash. Aside from the diffuse nature of the eruption the points of distinction from rubella are not pronounced, while from morbilli and scarlatina they remain practically the same as between these diseases and rubella.

Rubeola.

The eruption in measles is usually first seen along the hair line upon the forehead. The lesions are of a pinkish, reddish, or raspberry hue, very slightly elevated, and somewhat velvety to the touch. The blotches come out upon the third or fourth day of an illness characterized by catarrhal symptoms, injected and weeping eyes, or coryza, photophobia, sneezing, cough, and quickened respiration. Prodromal eruptions may now and then occur, just as in other exanthemata. These may take on the scarlet-like, the measles-like, or an erysipelatous appearance, or may simulate prickly heat, appearing about the second day of invasion and disappearing before the actual rubeolic eruption shows itself.

DIAGNOSIS.—There is slight fever, irritability, and, at first, an inclination to sleep. If catarrhal symptoms and fever are otherwise of obscure origin, the red throat and pharynx as well as the roof of the mouth and soft palate often show early and confirmatory signs. When measles is suspected by reason of exposure and before the eruption appears, it is of the greatest importance that the mucous surface of the cheeks should be carefully examined, since in the stage of invasion, as Koplik has pointed out, there occur minute red dots, having a bluish-

white centre, scattered over the lateral aspects of the buccal membrane and upon the inner surface of the lips. This peculiar eruption—disappearing by the time the eruption upon the skin is at its efflorescence, the whitish dots not becoming opaque, as in sprue, and not coalescing to form plaques—is regarded as pathognomonic, and my own observations lead me to accept this view. The mouth lesions are of especial value in instances of lengthy prodromal stage and in dark-skinned races. The eruption on the skin remains out for from five days to a week, invading in succession the face, neck, trunk, and limbs, requiring from two to four days in its gradual spread. At first it is a slightly pointed eruption with areas of healthy skin intervening; patches of irregular or circular outline may form by fusion of the primary lesions after they have taken on the appearance of flattened papules. The color is deepest in the most exposed parts and fades momentarily under finger pressure.

The temperature increases gradually up to the time the rash is well out, or the initial fever remains but little changed throughout, and while it is rarely below 102° it rarely exceeds 103° F. This is in itself one of the most valuable differential points. In defervescence the evening temperature is lower than that of the morning.—BOURGEOIS.

In rare instances the first evidences of a rash may appear upon the calves. The gums usually present a swollen condition and form a pultaceous coating, but an erythemato-pultaceous stomatitis, it must be remembered, is occasionally seen in the beginning of scarlatina.

DIFFERENTIATION. —Rubella or German measles is one of the most important conditions to be distinguished, and is undoubtedly in great part accountable for the quite numerous reports of "recurrent measles." The normal pale color of the buccal membrane is not altered during the period of invasion, and most important is the absence of Koplik's sign. Catarrhal

symptoms are absent and constitutional manifestations less severe. Cough and sore throat as well as photophobia are lacking. The incubation and the prodromal periods are shorter. The eruptive elements remain habitually smaller, take on crescentic shapes, but do not tend to coalesce in plaques. Especially important is the tendency to generalized glandular swellings, most marked in the cervical region, where the lymph nodes remain tender for a long time.

The fact that r  theln occurs especially in epidemics helps to simplify the diagnosis. Though the lesions may be closely packed together, they remain usually as discrete pinhead-sized lesions.

Influenza in its early stages, when attended with catarrhal symptoms, may at times suggest the presence of measles, but the cheek membrane remains normal, enabling us to exclude it. The fever, too, in grippe increases rapidly, while in measles two or three days are required before the maximum is reached.

Scarlatina has a uniform raspberry-colored eruption, coming out first upon the lateral aspects of the neck, behind the ears, or upon the upper chest. Catarrhal symptoms are lacking, the onset is abrupt, the angina is of a diffuse nature and more severe than in measles, there is higher fever and, perhaps, vomiting. The various erythemas and other eruptions incidental to early life, as well as the various drug eruptions which simulate measles, are distinguished by the absence of fever and usually of catarrhal symptoms, while investigation of the mouth may give valuable aid.

PROGNOSIS.—In private practice measles is not a particularly fatal disease, but it is by no means to be regarded as the innocent affection which so many still consider it. In certain epidemics, especially in institutions, its ravages are at times appalling, the younger children succumbing to the greatest extent. Below the age of two years the mortality is given as thirty per cent, while above this age, according to Comby, it

is seven per cent. The chances for the affection leaving behind alterations in the bronchial-gland structures leading to persistent bronchitis are very great.

TREATMENT.—Since the affection pursues a self-limited course, our attention is directed chiefly to allaying symptoms and combating complications. Exposure to sudden changes and draughts is to be guarded against. To protect the respiratory organs the hot bath may be employed in case the eruption suddenly disappears. To assure an even temperature of the cutaneous surfaces a one-piece cotton-flannel garment should be worn. This obviates the necessity of much bed clothing. A sweating-out process under blankets is uncalled for.

When photophobia exists the room should be darkened, but good ventilation should always be maintained. A daily tepid bath or tepid sponging may be given, followed or not by a little alcohol applied to the surface. When the temperature is very high and attended with nervous manifestations, the cold bath or cold pack may be resorted to. Frequent sips of cool water may be given.

In uncomplicated instances :

℞ Tinct. aconiti rad.....	℥ xvi.
Extr. ipecac. fld.....	3 ss.
Tinct. opii deodorat	3 i.
Aquæ.....	q.s. ad 3 ij.
M. S. Teaspoonful every two to three hours.	

For the cough :

℞ Ammon. bromidi.....	3
Syr. liquirit.....	25
Decoct. althææ.....	50
M. S. Teaspoonful every hour for a child one year old.	

—LOUIS FISCHER.

Or—

℞ Extr. hyoscyami	gr. ij.
Syrupi.....	3 ij.
Aquæ destill.....	q.s. ad 3 ij.
M. S. A teaspoonful every two hours.	

—WIDERHOFER.

In case of *intense* itching of the surface:

℞ Acidi carbolicī gr. x.
 Vaselini..... ℥ i.
 M. S. Apply.

Or—

℞ Lanolini puri..... ℥ i.
 Vaselini 3 ij.
 Olei ricini ℥ ij.
 Aquæ destill..... 3 v.
 Ft. ung. S. Apply as required.

As a wash for the eyes:

℞ Acidi boracici,
 Aquæ (sat. sol.) ℥ iv.
 M. S. Wash eyes eight or ten times daily.

Or, should there be a persistent discharge:

℞ Hydrargyri chloridi mitis..... gr. x.
 Vaselini (white)..... 3 iv.

In distressing and persistent cough:

℞ Antimonii et potassii tartratis gr. i.
 Potassii chloratis..... gr. x.
 Aquæ menth. pip..... 3 iv.
 M. S. A teaspoonful every four hours until the expectoration is free.

Or—

℞ Ammonii chloridi..... gr. xxx.
 Morphinæ sulphatis..... gr. i.
 Pulv. glycyrrh. rad 3 i.
 Aquæ 3 iv.
 M. S. A teaspoonful every four or five hours.

Caution.—To be given with watchfulness to very young children or the morphine reduced in amount.

Or when the cough is accompanied by high temperature, especially in the early stages:

℞ Tinct. aconiti radicis..... 3 i.
 Extr. ipecac. fluidi..... 3 ij.
 Tinct. opii deodoratæ..... 3 iij.
 M. S. Six drops every one to two hours.

—CARPENTER.

Application of jacket poultices to the chest, as soon as there

is reasonable ground to suspect an attack of measles, and before the rash appears, lessens the risk of pulmonary complication assuming a serious form.—DUDLEY OWEN.

Sarcoma.

While primary sarcoma of the skin is rare in early life, that secondary to internal sarcoma (congenital, of kidney) is occasionally seen. Progressive, painful, unequal enlargement of the testicle without inflammation, but with tendency to adhesion, and enlargement of cord point to sarcoma of this organ.

DIAGNOSIS of sarcomatous growths, other than those above mentioned, is made by rapidity of development, by early appearance of ulceration and bleeding, and by histological examination.

The features that distinguish sarcomatous from other enlargements of the testicle are: (1) Continuously progressive solid enlargement without inflammation; (2) unequal resistance of the swelling at different parts; (3) entire absence of translucency; (4) tendency to become adherent; (5) increasing aches or painfulness; (6) enlargement of the cord and, *a fortiori*, of the lumbar glands.—JACOBSON.

DIFFERENTIATION.—Multiple pigmented sarcoma of the skin, when primary, is distinguished from other cutaneous or subcutaneous nodular swellings by the bluish, brownish, or perhaps black color of the lesions. When, as is usually the case, these lesions are secondary to sarcoma of some other organ of the body, the primary affection is a guide to their nature.

Retroperitoneal sarcoma is accompanied by ascites, and when dipping down so as to be detected by rectal touch it may have to be carefully differentiated from solid ovarian tumor.

Sarcomata are much more prone to ulcerate than are benign growths, and show differences in density in different portions of the tumor. That of the uterus is distinguished from carcinoma by its early development, less constant pain, and relatively slight involvement of lymph nodes.

PROGNOSIS.—While for the most part a fatal affection, and usually rapidly so, the location and variety modify prognosis.

The round-celled form is the most deadly.

Early and persistent treatment may prolong life in the cutaneous variety. Roentgenism has succeeded.

TREATMENT.—Operation may defer the fatal issue.

Treatment of inoperable sarcomata by the mixed unfiltered toxins of the streptococcus erysipelatis and bacillus prodigiosus (Coley),⁶¹ made from cultures grown together in the same bouillon and sterilized by heat to 58° C., has been followed by a number of cures. Fifteen cases have passed the three-year limit, in eight others the tumor has disappeared, and two other patients are well four and six years respectively after treatment.

The results are best in the spindle-celled form; nearly fifty per cent recover. If no improvement has occurred after four weeks of daily injection, success is not likely. Give small and safe doses immediately after primary operation.

Caution.—The needle and skin must be sterilized with greatest care, and efforts should be made to keep sterile ulcerating surfaces.—COLEY.

In primary multiple cutaneous sarcoma, injections of arsenic up to the point of toleration have seemed at times to act well.

℞ Syr. trifol. comp. ʒ iiiss.
 Liq. arsenii et hydrargyri iodidi (Donovan's solution) ʒ ss.
 M. S. Small teaspoonful with water t.i.d.

Syr. trifol. comp. has the following composition:

℞ Red-clover blossoms gr. xxxij.
 Stillingia gr. xvi.
 Lappa gr. xvi.
 Phytolacca root gr. xvi.
 Berberis aquifol gr. xvi.
 Cascara amarga gr. xvi.
 Xanthoxylum gr. iv.
 Iodide of potassium gr. viij.
 Syrup ʒ i.

The above combined with Massey's method of electrolysis:
 "A soluble zinc electrode as positive pole, freshly coated with

mercury at each application, and properly insulated. This electrode, of a size and shape adapted to each case, is inserted into the tumor after a small opening is made by negative electro-puncture, under chloride-of-ethyl spray, and with a properly adjusted large negative pole, as indifferent pole, a current of from one hundred to two hundred milliamperes may be gradually turned on and repeated daily until a cure is effected."—J. McFADDEN GASTON.

Scarlatina.

The eruption in the form of a fine punctate rash comes out first upon the upper portion of the body, especially about the neck, upper chest, behind the ears, and at the flexures of the elbow. Preceding this, there may be a general hyperæmia attending the initial fever. The temperature upon the first day may mark 104° F. When the eruption is at its height, involving the whole surface, perhaps by the second or third day, the thermometer may indicate 105° F. With the fading of the eruption there is a gradual fall until the eighth day; when desquamation begins, it is found to be normal. The pulse is high. Vomiting is a frequent early sign, even before the child begins to complain. If convulsions, nervous symptoms with agitation and especially with chill, mark the invasion, a severe attack may be predicted. The extent of eruption varies within wide limits, from a faint and scarcely noticeable redness to a uniform deep erythema pervading the entire surface, joining together and spreading over spots of a still deeper hue. If in the early period a pencil point be rapidly drawn over the body surface, even including the parts covered by eruption, a white line is formed which lasts for a considerable time.

The tongue is at first thickly coated with a whitish deposit, through which the summits of enlarged papillæ are seen. This coating soon disappears from the tip and edges, and about the third day is succeeded by a marked redness of the anterior part

of the organ, which is studded over with hypertrophied papillæ. The throat is diffusely red at first, even in the prodromal stage, but the tonsils and arches of the soft palate may soon present pseudo-membranous or necrotic features. Ulcerations or gangrene may also develop.

DIFFERENTIATION.—If the patient is seen for the first time only after the eruption has disappeared, and the history shows that there have been no eye symptoms, and it is found that no catarrhal affection and no cough have been left behind, it is safe to say that the affection has more likely been scarlatina than measles. When seen early, measles is excluded by the more abrupt and more violent onset in scarlet fever, and the fact that the eruption does not develop first upon the forehead or face, and is more raised above the surface and of a brighter red color. In the prodromal stage of measles the throat presents somewhat the “blotchy” aspect seen on the skin. The color is of a deeper shade than in early scarlatinal angina.

The congestion between the blotches is slight compared with that in scarlatina.—**ROTCH.**

Minute silvery or pearly dots on the inner surface of the cheeks and lips are present in measles before the eruption.—**KOPLIK.**

In rubella the general condition is better, the tongue is more natural, the post-cervical and post-auricular nodes are more involved.

In diphtheria attended with a rash the nares, larynx, or trachea is likely to be involved. Bacteriological test, if it can be made, is decisive. Both conditions may, however, coexist.

In influenza the early rash disappears within a few hours, and is not followed by desquamation, and the throat symptoms are less severe.

In erythema resembling scarlatina desquamation often begins as early as the fourth day and may last for several weeks. Unless due to a septic process, fever is absent or much less pronounced.

PROGNOSIS.—The mortality is greater in institutions and in some epidemics than in others. It is likewise high before the age of one year and grows less as adolescence is approached.

TREATMENT.—The general management includes suitable diet, dress, even room temperature at 60° or 65°, ventilation, bathing, a one-pieced garment of flannel or other warm material, not too heavy bed clothing, as mentioned in the treatment of measles, and prophylactic measures. Milk is the most suitable food, and, if necessary, it may be given peptonized and ice cold, as an enema every three hours. It is not well to attribute too favorable results to any particular line of treatment, since the type varies greatly in different epidemics, in different localities, and, at times, hospital statistics give a death rate of about one-half that reported in private practice during an equal period. My practice for a number of years has been to treat scarlatina with the bichloride of mercury in frequent, full, and well-diluted doses. While it cannot be admitted that sufficient quantities can with safety be administered to overpower existing micro-organisms, I believe that something can be done with this class of remedies to counteract or prevent the elaboration of toxic substances.

℞ Hydrarg. bichlor gr. $\frac{1}{2}$
 Aquæ $\frac{3}{4}$ ij.

M. S. For infants of a year or over, a teaspoonful every two hours.

℞ Hydrarg. bichlor gr. $\frac{1}{2}$
 Aquæ $\frac{3}{4}$ ij.

M. S. For infants of one or two years, a teaspoonful every two hours.

℞ Hydrarg. bichlor gr. ss.
 Aquæ $\frac{3}{4}$ ij.

M. S. For children over two years a teaspoonful every two hours.

This acts not only as an antiseptic but as an antipyretic to such an extent that I have rarely been forced to use internal antipyretics, phenacetin, etc. I have occasionally given:

℞ Tinct. aconiti ℥ xvi.
 Aquæ $\frac{3}{4}$ ij.

S. Teaspoonful every three hours for children of five years.

℞ Acidi boracici..... 3 ss.
 Potassii chloratis..... 3 ij.
 Tinct. ferri chloridi..... 3 ij.
 Glycerini,
 Syr. simplicis..... āā 3 i.
 Aquæ..... 3 ij.
 M. S. Teaspoonful every two hours for a child of five years. —SMITH.

℞ Tinct. ferri chloridi..... 3 ij.
 Potassii chloratis..... 3 i.-ij.
 Syr. simplicis..... 3 iv.
 M. S. A teaspoonful every hour or two to a child of four or five years.
 —J. LEWIS SMITH.

Begin treatment with the administration of calomel; then give throughout the disease:

℞ Chloralis..... gr. xxx.
 Syr. lactucarii,
 Aquæ..... āā 3 ss.-i.
 M. S. Teaspoonful in ice water every two or three hours.

Complete narcotism should never be attained.—WILSON.

The throat requires more constant attention than the skin in the early stages, and since it is probable that exhalations are active in disseminating the disease, mouth washes, gargles, and sprays should be employed from the very first.

As a spray for the throat:

℞ Hydrogen peroxide..... 1
 Aquæ bul..... 4
 M. S. Use every hour or two.

For the nares:

℞ Hydrogen peroxide..... 12
 Aquæ bul..... 46
 Sodii bicarb..... 2
 M. S. Heat before using and apply every half-hour.

Or—

℞ Hydrarg. bichlor..... gr. ij.
 Aquæ bul..... O i.
 M. S. Apply every two hours.

Or—

℞ Oxygenated water..... 3 i.
 Sodii bicarb..... gr. xvij.
 Aq. bul. dest..... 3 ij.
 M. S. Use as spray every two hours. —McCLANAHAN.

℞ Acidi boracici.....	3 ij.
Sodii biboratis.....	3 ij.
Sodii chloridi.....	3 i.
Aquæ.....	0 i.

M. S. A teaspoonful injected into each nostril hourly.

—J. L. SMITH.

Or—

℞ Boracis.....	q.s. sat. sol.
Glycerini.....	3 ij.

S. Paint the throat several times daily.

℞ Potass. permanganatis.....	1
Aquæ.....	400
Sodii chloridi.....	q.s. for normal ($\frac{1}{10}\%$) saline solution.

M. S. Use as an injection for the throat or nares.

As a gargle :

℞ Acidi acetici.....	3 ij.
Glycerini.....	3 i.
Aquæ.....	q.s. ad 3 viij.

A daily bath may be given of 88° or 89° F. of five minutes' duration, followed by dilute alcohol, or a sponging of the surface with water to which a tenth part of alcohol or a fifth part of vinegar has been added. Or a cooler bath at 65° or 75° F. may be given when the temperature goes above 103.5°, or in the anginal form with prolonged hyperæmia.

Or bath at 95° F. of ten minutes.—SCHILL.

Caution.—In asthenic and other malignant cases, in the presence of cardiac affections, collapse, or pseudo-rheumatism, frequent bathing may prove too exhausting.

℞ Acidi carbolicæ.....	gr. xxx.
Thymol.	gr. x.
Petrolati.....	3 i.
Ung. simplicis.....	3 i.

M. S. Employ after the bath.

For itching of the skin surface:

℞ Lanolin, anhydrous.....	50
Vaseline.....	20
Water.....	25

M. S. The evaporation of the water acts to decrease the surface heat.

When desquamation begins, to shorten this stage:

℞ Resorcin.....	5
Salicylic acid.....	5
Superfatted soap.....	100

M. S. Locally.

℞ Hydrarg. bichlor.....	1
Aquæ.....	1,000

M. S. As a wash for the surface especially during desquamation.

℞ Ichthyol.....	5
Unguenti.....	100

M. S. Apply to produce decline of fever and for beneficial effect on skin.

—SEIBERT.

In the presence of suppuration and pyæmia:

℞ Tinct. ferri chloridi.....	3 i.
Glycerini puri.....	3 ij.
Aquæ destillatæ.....	q.s. ad 3 ij.

M. S. Teaspoonful every two hours.

As a diaphoretic and cardiac stimulant:

℞ Spiritus ætheris nitrosi.....	gtt. x.—3 i.
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In water *pro re nata*.

In ataxic phenomena:

℞ Moschi.....	1 gm.
Ammonii carbonatis.....	0.20 cgm.
Syrupi.....	40 gm.
Aquæ.....	80 gm.

M. S. Two teaspoonfuls four to six times a day.

—DESCROIZILLES.

A specific and prophylactic:

℞ Sol. hydrarg. bichlor. (1-5,000).....	3 iij.
Potass. iodidi.....	gr. x.
Ferri et ammonii citratis.....	gr. xx.
Syrupi.....	3 ss.
Aquæ.....	q.s. ad 3 ij.

M. S. Teaspoonful every two hours to a child of from two to four years.

—ILLINGWORTH.

℞ Acid. carbol.....	gr. xx.
Thymol.....	gr. x.
Petrolati vel ung. simp.....	3 i.

M. S. Rub in well.

—STARR.

Treatment by the antistreptococcic serum.—MARMOREK.

The majority of cases thus treated seem to recover without

complication. There is rapid reduction of temperature, and the mortality rate seems to have been decreased in the cases in which it has been employed. Inject ten centimetres and repeat until the temperature falls.

In pseudo-diphtheritic angina in young children use Dobell's solution diluted. (See page 200.)

Or 1 to 1,000 solution of bichloride of mercury to wash nose and throat.

To expose in a sick-room as a disinfectant:

℞ Formaldehyde,

Alcohol.....ãã p. æ.

M. S. Pour into an open vessel.

To prevent adenitis and swelling of the neck cold compresses may be employed, or a cold-water coil or an ice bag; the latter, too, may be applied to the head in hyperpyrexia.

For an effect upon the throat and bowels:

℞ Sulphur..... 3 i.

Ft. tablets No. 80. S. Take one three or four times daily.

To swab the region of the tonsils and pharynx several times daily:

℞ Creosote..... 1 gm.

Alcohol..... 90 gm.

Glycerin 28 gm.

M.

—SEVESTRE.

In threatening high temperature:

℞ Quininæ sulph 0.30 cgm.

Olei theobromæ..... 2 gm.

M. For one suppository.

For an infant five days old and repeat as necessary.—COMBY.

℞ Antifebrin gr. xv.

Sacch. alb gr. xxx.

M. ft. chart. No. x. S. A powder as required to relieve fever, for a child of three or four years.

—WIDOWITZ.

If the eruption does not come out well:

R̄ Vini antimonii	2 gm.
Spir. Mindereri.....	3 "
Syr. rubi idæi.....	15 "
Aquæ sambuci	120 "

M. S. A teaspoonful every two hours.

—ARCHAMBAULT.

In threatened collapse, caffeine, ether, or oleum camphoræ, by subcutaneous injection.

R̄ Tinct. digitalis	15 gtt.
Mel. scillæ acetat.....	15 gm.
Syr. simplicis	45 gm.
Aquæ.....	90 gm.

M. S. Teaspoonful every two hours.

—COMBY.

Caution.—In scarlatinal rheumatism salicylate of sodium is contraindicated.

In malignant, toxic cases, spir. terebinth, 1 gm., by hypodermic injection.—FAUVA.

To prevent otitis :

R̄ Beta-naphthol	10 gm.
Camphor	20 "
Glycerin.....	30 "

M. S. Apply to the throat, especially when exudation is present.

—CHARPENTIER.

Sciatica.

This painful neuralgia or neuritis (Gowers) may occur abruptly or after premonitions. The pain is paroxysmal, or there may be continued dull pains extending over a portion or the whole of the nerve distribution.

The pain begins usually at the back of the thigh and extends down the leg. Gradually becoming worse, it is aggravated by movements which put the nerve upon the stretch.

DIAGNOSIS.—Tenderness on pressure over those points where the nerve branches emerge from the spinal canal and where they penetrate various muscles is rather characteristic. These points

are found over the sacrum, sacro-iliac junction, about the middle of the crest of the ilium, sciatic notch, between the trochanter major and tuber ischii, in the popliteal space, over the articulation of the tibia and fibula, over the lower and posterior part of the external malleolus, on the dorsum of the foot, and upon the outer aspect of the sole. In neuritis these painful points are often wanting.

DIFFERENTIATION.—From muscular rheumatism and from hip-joint disease.

In rheumatism the pain is limited to the affected muscle and there is at first tenderness over the parts affected. The paroxysms are brought on by calling the muscles into play.

In hip-joint disease there is pain upon pressure over the greater trochanter, also in flexing and extending the thigh, while signs of chronic joint inflammation, including fever, emaciation, and general debility, are more pronounced than they are in sciatica.

In hysteria painful points are less frequent, and pain is not increased by passive motion.

Lumbago affects a higher region in the back, and there is no pain on pressure over the nerve.

Pelvic and fæcal tumor must be excluded as causes of pain from pressure.

Disease of the nerve roots and of the vertebræ or of the cord is more apt to cause bilateral pain.

Shooting pains of locomotor ataxia are excluded by the other signs of tabes.

In severe neuritis of different nature (ascending), reaction of degeneration may occur. [Slow contraction of muscles upon direct galvanic stimulation; the reverse of the electrical reaction in health, upon opening and closing the currents.]

When the Achilles-tendon reflex is diminished or lost, the condition is to be regarded as a neuritis (disease of joints and spinal cord being excluded).—BIRO."

The knee jerk is also at times diminished in sciatic neuritis.
—KNAPP.

PROGNOSIS.—Though often persisting for months and occasionally extending into years, the tendency is to final recovery.

TREATMENT.—Much similar to that given under neuritis.

If gout is suspected, colchicum.

If of rheumatic origin, salicylate of sodium.

Exclude pressure from new growths within the pelvis (rectal exploration) or along the course of the nerve, as well as lead poisoning, malaria, gout, and anæmia before directing treatment to the neuralgic condition *per se*.

Nerve stretching.—POTTER.

R. Chloral hydrate.....	3 iij.
Bromide of sodium....	3 iij.
Morphine sulph.....	gr. vi.
Quinine sulph.....	gr. liv.
Pulv. camphor.....	3 ss.
Elix. taraxacum comp.....	℥ vi.
Tinct. aconite.....	℥ xxiv.

M. S. A dessertspoonful every three hours until relieved.

—WILSON.

R. Alcoholic solution of nitroglycerin (one per cent).....	3 ss.
Tincture of capsicum.....	3 iss.
Peppermint water.....	3 iij.

M. S. Five drops thrice daily in a tablespoonful of water for the first three days, and ten drops thrice daily on the following days.

—TROUSSEVITCH.

R. Nitroglycerin.....	1
Water or alcohol.....	100

M. S. ℥ i. three times a day, increased to ℥ iv. if necessary.

Caution.—If congestive headache is caused, counteract with bromides.—KRAUSS.

Or cocaine, gr. $\frac{1}{4}$ — $\frac{1}{2}$, by injection into the seat of pain.—SEAGRAVE.

To lessen danger:

R. Cocaine.....	10
Resorcin.....	20
Water.....	100

If patient becomes pale or faint, give compound spirits of ammonia or amyl nitrite.—HAVILLAND HALL.

Hyperflexion of the limb upon the abdomen under anæsthesia if necessary.

Or nerve stretching, by exposing the nerve and exerting traction upon it sufficient to raise the limb from the operating-table.

When there is active inflammation, mass. hydrarg., gr. i. twice daily.

For mild degrees of pain:

℞ Phenacetin gr. x.
Caffeine citrate gr. iij.
—TYSON.

In the chronic stage, galvanism.

℞ Tinct. aconiti,
Tinct. colchici seminis,
Tinct. belladonnæ,
Tinct. actææ racemosæ ãã equal parts.
M. S. Six drops every six hours.

—METCALF.

Or—

℞ Sodii glycerophosphat. 5 gm.
Aquæ destill 20 "
M. S. Inject one-fourth cubic centimetre deeply into muscles near the nerve.

It is not painful, and recent cases soon recover, while inveterate instances are improved.—BILLARD.

Or—

℞ Pulv. opii,
Pulv. ipecacuanhæ ãã gr. xij.
Sodii salicylatis 3 i.
Extr. cascariæ fluidi q.s.
M. div. in pil. No. xii. S. One or two pills for a dose.

—BENJAMIN WARD RICHARDSON.

Or rest in bed, flannel bandage, splint from axilla to ankle and at end of treatment careful massage.—WEIR MITCHELL.

Methyl chloride as a spray upon the surface, cured ten and improved three out of fifteen cases.—HERTMANN.

Salol, 0.5 to 1 gm.—ASCHENBACH.

Copaiba, gtt. xl.—l. daily in divided doses.—GLORIEUX.

In obstinate cases nitroglycerin, beginning with one-one-hundredth grain and gradually increasing up to one-twentieth three times daily.—LAWRENCE.

Hydrochloric acid, $\bar{3}$ ss. Apply by dipping a brush in the strong acid and painting three or four coats over the painful part of the nerve; then wrap limb in cotton wool.—GEUNATAS.

Digital compression of the painful points while patient lies in bed with limbs completely relaxed. The right thumb is placed over the painful point and over the right the left is placed, making deep pressure for twenty seconds. Lateral pressure is exerted at the same time. Repeat every second day. Six sittings usually suffice.—NEGRO.

Or forced anterior flexion of body (bloodless stretching of nerve) preceded and followed by massage at intervals of one to five days.—BONUZZI.

Or under anæsthesia stretch the nerve by grasping the ankle and preventing flexion at the knee, forcibly flexing the straightened limb upon the abdomen, using considerable force. Cotton, wool, bandage, massage, electricity.—CURETON.

Scorbutus.

Scurvy in the adult is not so frequent in institutions and on shipboard as in former years, thanks to better methods in food supply, and properly preserved meats for lengthy expeditions.

DIAGNOSIS.—Besides bleeding and puffiness of the gums, a fibrinous condition of the latter develops; ecchymoses occur upon various portions of the integument, especially the legs below the knee; and hemorrhages may take place from mucous membranes. There is marked debility and apathy, with wasting of tissue, œdema, and brawny pigmented induration, especially of the legs. In the course of a week or more a greenish pallor

or dirty gray hue of complexion is noted; the skin becomes dry, scaly, with prominent papillæ, and petechiæ appear, especially about the hair follicles. Unless complicated, there is little or no fever. A striking manifestation in rare instances is the occurrence of night blindness, the subject being in total darkness even upon a moonlight night. The occurrence of symptoms of debility in those exposed to close quarters, and such fare as sailors and prisoners have, should cause one to think of scurvy.

DIFFERENTIATION.—Scorbutic anæmia depending on privation and exposure has absence of fibrinous exudation (gums, flexures of joints), less skin discolorations, no night blindness.

Purpura has more distinctly bright purplish spots, perhaps with joint pains, but the gums are not so thickened, and, though hemorrhages occur in one of its forms, the firm and darkened condition of the skin is absent or comes as a late manifestation and in a mild degree.

PROGNOSIS is good if proper food can be supplied. Recovery in from one to six months.

TREATMENT.—It is usually advised in adult scurvy to supply the patient with fruit acids and fresh vegetables. In two epidemics of which I have had the management, one occurring in a ship's crew after a long voyage and the other in a workhouse in which a large number were affected simultaneously, it was with considerable difficulty that I could induce the patients to take the juice of lemons, limes, or oranges, nor were they at all inclined to partake of the vegetable diet which I ordered. It has recently been suggested, and I believe rightly, that fresh meat should constitute the chief diet in these cases.

An abundance of fresh cow's milk, the juice of squeezed beef, fresh fruit and vegetables, furnish the whole treatment usually required. Tonic medication should be given for some time after the acute symptoms have passed.

As prophylactic :

℞ Potass. et sod. tart..... gr. **xx**.
 Calcii chloridi..... gr. **v**.
 M. S. Give three times daily.

To enhance coagulability of blood :

℞ Potass. et sod. tart..... gr. **xxx.-lx**.
 Calcii chlorid. (crystal)..... gr. **xx**.
 M. S. Three times daily.

—WRIGHT.

Pulque, the Mexican unrectified wine.—**IDE**.

Scorbutus, Infantile.

Scorbutus in infancy, or Barlow's disease, presenting lesions which are hemorrhagic in character, with subperiosteal effusion or hemorrhages into the mucous membrane and skin, is a disease seen in the well-to-do rather than in the poor family. Some instances resemble rachitis; and in others there is a combination of the two affections.

DIAGNOSIS.—We are aided in the diagnosis by the fact that artificial foods of various kinds have entered largely into, or have solely formed the infant's dietary. We may be confirmed in it if substituting proper food produces almost immediate results. The complexion is sallow or of a dirty grayish color; sweatings are often profuse, especially about the back of the head. The gums are bluish, boggy, and bleed readily, especially in children with teeth; the appetite is *nil*. Hemorrhages into various tissues occur (subperiosteal are considered characteristic). There is anæmia and often pseudo-paralysis. The onset is gradual. The symptoms which cause alarm come suddenly.

Hæmaturia may be the first thing to attract the parent's attention. "Black eye" without traumatism, perhaps repeated several times, can rarely be due to anything except scurvy.—**CHENEY**.

The child with beginning scurvy will lie quietly when un-

molested, but at the slightest touch will give evidences of pain. Swelling of the legs, especially about the thigh, is a most constant sign in a later stage. There may be a pyriform boggy swelling about the diaphyses, gradually decreasing in size from the epiphysis toward the shaft of the bone. The appetite decreases and diarrhoea may be present. The characteristic mark of infantile scurvy is the prompt recovery under a pure-milk diet.

DIFFERENTIATION.—Rachitis is distinguished by the characteristic rosary of bead-like enlargements at the junction of the cartilages with the ribs and the greater degree of gastro-intestinal manifestations. Scurvy rickets, or scorbutus in children already rachitic, may present a complex symptomatology, but quick recovery from the more acute symptoms under treatment makes all clear.

From rheumatism by the slight amount of fever or its entire absence, and the fact that the swelling is above and to the outer side of the joint, without heat or redness.

Fracture of femur has come into question.

All forms of anæmia are excluded by the prompt restoration of health by antiscorbutic food.

From purpura hæmorrhagica by the greater amount of subperiosteal and deep-seated hemorrhages, and from the hemorrhagic forms of congenital lues by the extreme tenderness in scurvy and the absence of other characteristic symptoms of syphilis. Immobility of a limb may simulate paralysis.

In syphilitic pseudo-paralysis there are the same muscular weakness, pains, and crepitation about the epiphyses, but the swelling is less extensive.

PROGNOSIS.—While fatal if untreated, the condition responds quickly to proper measures if early instituted.

TREATMENT.—Sunshine, fresh air, tonic baths, lemon juice, orange juice, beef juice, fresh vegetables (if child is old enough), otherwise exclusive pure fresh milk modified to meet the special

requirements of each patient. Fresh cow's milk and sieved potato.—BARLOW.

Combine with a cereal.—JACOBI.

In warm weather Pasteurize or moderately sterilize.

When rachitis is present, elixir phosphori, ℥ x., t.i.d.

Inunctions of oil for painful extremities.—NORTHRUP AND CRANDALL.

Or cod-liver oil and phosphorus.—CARR.

In pseudo paralysis of slow progress, minute doses of citrate of iron, massage, hot and cold douches to lower extremities.—JOSEPH LEIDY.

Scrofula.

This chapter, which in the past century would have been a long one, can now be limited to a few words. Although to-day almost all so-called scrofulous affections can be properly classified under tuberculosis, syphilis, rachitis, the results of adenoids or some other well-defined condition, there still exist certain manifestations for which it is well to retain the name.

The clinical picture, as well as the pathologic process involved, differs in various allied scrofulous and tuberculous states. Thus, as Wooton says, scrofula commences with malnutrition and tuberculosis with impaired absorption.

The lymphatic temperament may be said to be the first manifestation, and it is essentially by the chronic enlargement of the nodes of the neck that subjects of this affection or diathesis are distinguished. Likewise in after-years the peculiarity of the scars left about the region of the neck are sufficiently distinctive to indicate the nature of the lesions which have produced them. There is a type of stunted child, with loosely hanging, doughy skin, prominent or flabby abdomen, thick lips and broad nose, whose skin and mucous membranes are peculiarly vulnerable and of low vitality. The subcutaneous lymph nodes readily break down.

There is a second type of tall blond individual, with pale skin, prominent blue veins, and flushed cheek. Such subjects likewise readily develop pathologic changes in the skin, especially of tuberculous nature. This is also true of the internal organs. It would seem that the condition, of whatever nature it may be, prepares a soil well suited for the growth of bacillary diseases, and especially for those of tuberculous nature. Upon the skin surface we often find both lupus and tuberculosis cutis. Other instances clearly not syphilitic and which inoculation experiments have shown not to be tuberculous, present lesions of ecthyma, keratitis, and visceral changes which can at present be classed only as scrofulous. While no characteristic symptoms or lesions can be said invariably to present themselves, still such a similarity in temperament may pervade the various members of entire families, showing a proneness for osseous and catarrhal affections, hip-joint and spinal disease, as well as for enlargement of the neck nodes and cutaneous lesions justly termed scrofulodermata, that the designation should, for the present at least, be retained.

As Gaston has well said, scrofula is not tuberculosis, but the expression of infectious states which have left their imprint upon the patient and prepared the soil for the subsequent development of the tuberculosis bacillus.

TREATMENT.—Cod-liver oil (teaspoonful doses for an adult). Intermittent applications of iodine. Excision of glands is not satisfactory. Insert a small self-retaining drainage cannula. Two days *in situ* are sufficient.—F. M. BRIGGS.

General treatment embraces most nourishing food, country and especially sea air, sea baths, good hygiene, and abundant sleep, iodine, hydriodic acid, surgical measures. In treatment distinction can well be made between the nervous and the phlegmatic type.

℞ Potassii iodidi..... 2 gm.
Tinct. iodi 15 gtt.
Tannin..... 1 gm.
Syr. cinchonæ..... 80 gm.
Muc. gummæ acaciæ 150 gm.
M. S. To be taken in three doses during the day.

—GUIBOUT.

In scrofulodermic tumors and ulcerations, as well as in lupus which has developed from the scrofulodermic basis:

℞ Zinci oxidi,
Amyli pulv.....āā 3 ij.
Petrolati albi..... ʒ ss.
Hydrarg. oleatis (5 per cent)..... ʒ i.
Acidi salicylici,..... gr. xx.
Ichthyoli ℥ xx.
Ol. lavandulæ..... q. s.
M. ft. ung. S. Rub in well and cover with potato-starch powder.

Sufficient Armenian bole and raw umber may be added to secure a skin-like color.—BROOKE.

For young children :

℞ Iodoform..... gr. iss.
Mellis..... ʒ iv.

This can be given for a long time and is preferable to iodine and the iodides.—BESNIER.

℞ Sodii arsenitis..... gr. ʒ
Elix. calisaya ʒ ij.
Teaspoonful one to five times daily.

For a bath :

℞ Sodii bromidi..... 10
Sodii carbonatis. 100
Sodii chloridi. 500
To be used in a bath of twenty minutes' duration.

If the skeleton develops badly :

℞ Sodii phosphatis,
Potassii phosphatisāā 5-10
Elix. calisayæ 200
Malaga wine..... 800
Tablespoonful as required.

No one remedy will prove efficacious in different types of the affection. Hygienic and remedial agents conjointly give

the best results. Nuclein solution, five per cent, 3i. t.i.d., before meals. Dose must be larger in phlegmatic than in nervous temperament, and determined according to idiosyncrasy.

—DOWLING.

In association with rachitis or anæmia:

℞ Syr. ferri iodidi..... gtt. iij.-xxiv.

Aquæ destillatæ ʒ iij.

M. S. 3 i. every four or five hours.

—HARE.

Scrofulous Glands.—Anodal diffusion of iodine with aid of negative pole of galvanic battery. See also under “Lymphadenitis.”

Seasickness.

The mere fact of being upon a vessel does not preclude the possibility that the nausea, vomiting, headache, depression, sleeplessness, pallor, perspiration, may have other cause than the one most likely under the circumstances, or that there may be some complication requiring most prompt and urgent attention. Examination of the abdomen may disclose signs of volvulus, appendicitis, obstruction, etc. Begin three days before sailing and continue for first three days out to take:

℞ Ext. taraxaci,

Ext. colocynth. comp ʒʒ gr. xx.

Ext. hyoscyami gr. iij.

Ext. nucis vomicæ..... gr. v.

Massæ hydrargyri..... gr. xv.

M. et fiant pil. No. xx. S. One or two each night.

During this time let the diet be simple. Avoid fluids. Keep the recumbent posture on deck.

PREVENTIVE TREATMENT.—For an hour before embarking give every quarter-hour strychnine sulphate (arseniate or hypophosphite) gr. $\frac{1}{10}$ in granules or tablet triturate. A combination of these three salts of strychnine, gr. $\frac{1}{10}$ of each, can be given for three days three times daily, and each night half a grain of podophyllin.—LE GRIX.

Wear a tight bandage or belt from the ensiform cartilage to below the umbilicus. Potassium bromide, 3 ss.—3 i.; take upon embarking in a large glass of soda water and repeat for long voyages in perhaps smaller dose. Or chloral in correspondingly large dose. Remove bile by giving hot water to provoke emesis.—LAUDER BRUNTON.

Bromization is demanded, and this must be induced and kept up two or three days before, and continued for several days after sailing, and sometimes even through the entire voyage. The amount necessary to produce mild bromization varies in individual cases. Thirty grains three times a day may be sufficient, but in many cases it is necessary to give much more than this. Because of its greater acceptability to the stomach, the bromide of sodium is much to be preferred to the bromide of potassium.—ROCKWELL.

Cocaine, four-per-cent. solution, gtt. v. t.i.d.—BOYD.

To arrest vomiting:

℞ Cocaine hydrochlorate,

Ext. of opium āā gr. iss.

Powd. marshmallow root..... q.s.

Mix and divide into pills No. x. S. One pill every second hour.

℞ Chloroform,

Tinctur. of nux vomica..... āā gtt. x.

Compound tincture of lavender..... 3 i.

Water..... 3 x.

M. A teaspoonful to be taken every hour until the vomiting and nausea have subsided, care being taken to shake the bottle each time before the dose is poured out.

—BARBAS.

℞ Menthol..... 0.10 cgm.

Cocain. hydrochl..... 0.20 cgm.

Alcohol..... 60 gm.

Syr. simp..... 30 gm.

M. S. Teaspoonful every half-hour.

—MOREL-LAVALLÉE.

℞ Atropinæ sulphatis 0.02 cgm.

Strychninæ sulphatis 0.04 “

Aquæ menthæ piperitæ..... 40. gm.

M. S. Inject one cubic centimetre or one-sixth to one-fourth of this quantity for a child.

—W. W. SKINNER.

Hypnosis may have an effect in naupathia.—FOLKES.

Chlorobrom,* 3 iii. at 10 P.M.—HUTCHESON.

Or chlorobrom, 3 i. to 3 iii. as prophylactic after a brisk cholagogue purge.—CHARTERIS.

Elevate the extremities and apply warm flannel bandage to arms and legs.—RAWLINS.

Apply a tight-fitting abdominal bandage, or strips of adhesive plaster in successive layers from below upward.

Kola nut decidedly ameliorates the symptoms, if taken early, through its action as a cerebral stimulant.—C. C. VINTON."

Septicæmia.

An initial chill usually within twenty-four hours of infection may be preceded by slight febrile symptoms. Sweating, prostration, high fever, delirium are often soon followed by an unconscious state. Icterus, diarrhœa, restlessness may be among the symptoms which go with a foul-smelling wound.

DIFFERENTIATION.—The symptoms as they arise from poisoning by putrid matter, the venom of serpents, or the inhalation of septic gases vary with the particular noxious substance at fault. They are in a general way much the same as those of septicæmia.

Tuberculosis is at times not readily distinguished, and areas of infection must be carefully sought for in the pelvic organs, genito-urinary tract, or elsewhere. A metastatic abscess in any part of the economy may give the greatest aid in differentiation. The spleen is enlarged in septicæmia oftener than in tuberculosis. The respirations are not so rapid.

Differentiation from pyæmia by the absence of suppuration, pus foci, and metastatic abscesses.

Intermittent fever may be simulated by the remissions, which, however, are not so complete.

* Contains chloralamid and potassium bromide., gr. xxx. each to an ounce, flavored with licorice.

Typhoid may be suggested by certain mild cases without remissions, but the more characteristic features of enteric fever, including the rash, are lacking (pseudo-typhoid).—BANTI.

PROGNOSIS.—It is only in the milder forms arising from accidental wounds, etc., that recovery is expected. In severe attacks death may rapidly ensue.

TREATMENT.—*In puerperal septicæmia*, local antiseptic douches. Antistreptococcic serum, 20 c.c.—MAPLETON.

In acute hemorrhagic, antistreptococcic serum (Burroughs & Wellcome), 3.5 c.c. injected and repeated every four hours. After eight injections, dose was increased to 7 c.c., and twenty additional injections were given.—BALANCE AND ABBOTT.'

Streptococcus antitoxin, 8 c.c.—LILIENTHAL.

To reduce fever, hydrotherapy.

Prophylaxis: immerse every wound, however slight, in bi-chloride solution (1-10,000); dry with sterile cloth and coat with collodion.—J. A. WYETH.

Injection of a quart of normal [$\frac{6}{100}$ %] salt solution into the subcutaneous cellular tissue is a treatment which has given excellent results.—LANPHEAR.

Yeast nucleinic acid should be given at the earliest possible moment, not waiting for typical and classic symptoms.

From thirty to forty minims of a five-per-cent solution undiluted, given hypodermically if possible.—COURTNEY."

Sustain force with concentrated food, milk, and alcohol. Oxygen inhalations.—CURRIER.

In gastro-intestinal septicæmia of infancy, intestinal irrigation followed by nutritive enema. Subcutaneous injections of salt solution.

R Dry peptone.....	3 iss.—3 iiss.
Yolk of egg.....	1 or 2
Tepid milk.....	$\frac{3}{4}$ ij.
Sydenham laudanum.....	gtt. ij.

For further treatment see "Pyæmia."

Singultus.

Hiccough is a symptom in a variety of diseases, especially heart affections and gangrene, but may occur frequently in seemingly healthy persons. Because of its occasional persistency and severity, even ending fatally, remedial measures should be enumerated.

Perhaps the best is vigorous traction upon the tongue. This the patient can learn to do for himself.

Inhalations of amyl nitrite, hot pack, pilocarpine, hypodermatically until free sweating, rectal injections of chloral and bromides, musk in the same way or by the mouth, especially in typhoid fever, stomachic tonics when of gastric origin, and teaspoonful doses of Hoffman's anodyne when due to flatulency, are some other suggestions which have been made.

Spleen, Enlargement of.

The enlargement of the spleen in malarial affections must be distinguished from that of splenic anæmia or leukæmia by the history of preceding malarial affection and by the presence in leukæmia of an increased quantity of the white blood cells and marked tendency to hemorrhage from one or more mucous surfaces, as well as into the other tissues, including the retina.

DIAGNOSIS.—A large spleen can seldom be detected by palpation, while even moderate enlargement can be made out by percussion. Dulness in an oval area, seven or eight by ten centimetres, indicates enlargement. The diagonal position of patient is best. Try various positions.—BÄUMLER.

DIFFERENTIATION.—Amyloid spleen is excluded by the absence of preceding suppuration and by the hardness of the organ.

Hydatid tumor, when it is sufficiently advanced to occasion discomfort and to be distinguished by palpation, shows fluctuation, and puncture of the cyst or aspiration will enable a verifica-

tion of the diagnosis by finding hooklets with the microscope. The presence of hydatid disease in the neighborhood and the hygienic surroundings and habits of the patient will go far toward excluding or confirming the presence of the latter disease.

In enlargement of the spleen in various infectious disorders and conditions of blood poisoning, we have the symptoms of these affections to indicate the cause.

From enlarged kidney it is distinguished by the tumor not extending so far backward in the direction of the spine, enabling the examiner's fingers to pass behind the posterior border. There is no thoracic area of dulness in enlarged kidney, while that of the spleen extends to or above the ninth rib. Anteriorly the spleen extends toward the median line farther than the kidney when the patient is examined in the knee-chest position.

Acute splenitis may be diagnosticated, especially when endocarditis or inflammation of other neighboring organ exists and pain increases on deep inspiration or by coughing, as well as by pressure exerted over the region of the spleen. The condition is rare.

Splenic Abscess.—In addition to the above symptoms we have an extension of the tumor area, together with fever of a hectic type. In a general way it may be said that the larger the spleen tumor, the greater is the likelihood of its depending upon leukæmia or chronic malaria.

Suppurative inflammation may be an evidence of pyæmia, whose other symptoms will point to the origin of the abscess. Rupture into an adjacent organ or into the peritoneal cavity may occur.

The occurrence of chill and fever tends to exclude echinococcus disease.

Wandering spleen is differentiated from fæcal tumor by a lack of splenic dulness in the normal situation.

Cirrhosis and infarcts also give rise to enlarged spleen.

TREATMENT.—*For enlarged spleen :*

℞ Quininæ sulph.,
 Ferri reducti.....āā 3 ij.
 Strychninæ sulph.,
 Acidi arsenosi.....āā gr. iij.
 Ext. gentian q.s.
 Misc. et fiant pil. No lxx. S. One pill three times a day.

If the stomach is weak and will not bear more, begin with one pill and increase to three a day.—B. P. WILSON.

Splenitis.

Metastatic inflammatory changes occur in the spleen with a frequency exceeded only by their occurrence in the kidney. They may be limited to an area surrounding the infarctus, or become generalized and followed by perisplenitis and adhesions.

Acute splenitis proper is rare. Chronic interstitial splenitis (cirrhosis) gives an enlargement of the organ.

DIAGNOSIS.—Symptoms are absent or indefinite. Pain can at times be made out on pressure, but this may be due to perisplenitis.

Inspection may show bulging in the region of the spleen, and palpation may disclose fluctuation. An exploratory puncture may bring to light pus.

DIFFERENTIATION of the acute suppurative form from disease of the stomach or pancreas is made largely by the history. There is danger of mistaking a depressed spleen from pleural effusion for one enlarged from disease.

Likewise fecal accumulations in the colon flexure might mislead, were it not for the peculiarly doughy, irregular tumor which they cause. History of constipation alternating with diarrhœa will also aid.

PROGNOSIS.—The great danger from abscess is that of internal rupture.

The chronic cirrhotic form is not of grave import.

TREATMENT.—The primary condition is that requiring medical attention. Treatment of the spleen itself is either surgical or symptomatic.

Stomach, Dilatation of.

Gastrectasia is the name which has been given to a dilatation producing digestive disturbances.

Gastroptosis (partial or complete) is the term for sinking of the stomach. Downward displacement along with other viscera is called enteroptosis.

Dilatation may be acute or chronic. The acute is rare. The atonic form is often found in those who consume large quantities of fluids.

DIAGNOSIS may be made by inspection in some instances: by percussion while patient stands.

A large amount of food in the stomach before breakfast is the only pathognomonic sign.

Explore with sound.

Reichmann's syndrome, with hydrochloric acid free or combined in larger quantities than normal after a test meal, is found when lesions exist, especially near the pylorus.

DIFFERENTIATION from atony by the stomach being found full of putrefactive material in the early morning; the urine being concentrated, scanty, and containing diacetic acid and acetone. From normally large stomach (megalogastria) and prolapsus, by distending with gas, the use of Hemmeter's intragastric bag or Einhorn's electrodiaphane, or by an *x*-ray picture after a spiral electrode is made to apply itself along the greater curvature (Wegele). In atony the motility is abnormal, while the size is normal. In gastrectasia there is enlargement in addition to motor disturbance. In other words, in gastrectasia the stomach is of abnormal size when empty; in atony only when filled.

PROGNOSIS.—In simple atony it is good.

In obstruction at pylorus it is bad.

TREATMENT.—*In motor insufficiency of first degree*, remove dietary and systemic causes; abdominal bandage. Little food or drink at a time.

Caution.—Milk diet is not advised. Purgatives should be used only as a last resort.

℞ Strychninæ..... gr. $\frac{1}{2}$
 Elix. gentianæ cum ferri chl..... $\frac{3}{4}$ vi.
 M. S. Tablespoonful t.i.d.

When hydrochloric acid is excessive :

℞ Magnesiæ ustæ..... $\frac{3}{4}$ ss.
 Bismuthi carbonatis,
 Sodii bicarbonatis..... $\frac{3}{4}$ 3 i. gr. xv.
 Strychninæ sulphatis..... gr. iss.
 M. S. Half-teaspoonful one hour after meals. —HEMMETER."

Caution.—The dose of strychnine is heroic.

Wash out stomach before meals for a day or two, then before bedtime two or three times a week.

Preprandial pill :

℞ Strychninæ..... gr. $\frac{1}{2}$
 Liq. potassii arsenitis..... ℥ iv.
 Creosoti..... ℥ i.
 Ext. gentian..... gr. ij.
 S. Twice daily.

In extreme cases, the constant current through middle of back; or by protected tube internally, the other over the epigastrium.

Deep massage or careful pommelling of epigastric region.—
 WYNTER.

In bottle-fed infants, in whom dilatation is often responsible for auto-intoxications, lavage is easily performed with a No. 20 to 24 Nélaton tube.—COMBY.

Stomach, Ulcer of.

Gastric ulcer is most often seen in young and anæmic women, or, if much hemorrhage has occurred, the anæmia may be the result rather than the cause. There is a period during which the symptoms are those of dyspepsia, extending perhaps through months, in which the patient has pain after eating, well-defined malaise, and a sensation of weight in the epigastrium. The stomach is often distended, and intellectual torpor is a frequently marked sign. Ulcers so situated that food rarely comes into contact with them may exist as "latent ulcers," until perforation results in peritonitis.

DIAGNOSIS.—When the ulcer is definitely established, the three pronounced symptoms are pain, vomiting of blood, and evidence of blood in the dejecta. The pain is dull, lancinating, or burning, paroxysmal in its intensity, and usually localized near the epigastrium, shooting at times toward the back and being most marked near the angle of the left scapula.

If an electric current is passed through a painful spot, the pain will be intensified if ulcer be really present, whereas decrease in the pain is against ulcer being present.—ROUTH.

The patients will indicate, with the hand over the region, the place where "food seems to become arrested," as they express it. The chief point in connection with the pain is that it comes on, or is at least intensified, after taking food. As to the location of the ulcer, if the pain appears at once it is more likely to be in the cardiac extremity; if a half-hour later it is more probably in the smaller curvature; while if the pain only appears in from one to two hours after eating, it is safe to argue that the location is near the pyloric end. Hemorrhage may, though rarely, be the initial symptom; more frequently it follows the vomiting of food. In the ordinary form of hæmatemesis the blood is of a brownish color, or it may be bright red. In rare instances

it is so slight as to escape observation, and in others it is so abundant as to prove rapidly fatal. Perforation usually occurs when the stomach is somewhat distended, often after some exertion, as lifting, etc. There is sudden acute abdominal pain, faintness, collapse, and even death; the breathing is quick, pulse feeble, temperature subnormal.

DIFFERENTIATION.—From cancer, by the absence of tumor, by the presence of free hydrochloric acid (which is usually absent in cancer), by the absence of cancerous fragments, and by the pain being more paroxysmal, while in cancer it is more continuous and influenced less by the taking of food. The age, too, may give aid, cancer being an affection of later years.

From gastric neurosis it is distinguished by the absence of marked nervous symptoms.

In simple gastralgia there is absence of postprandial pain, or at least pain is not increased by taking food.

Chronic catarrhal gastritis has no hæmatemesis.

In cholelithiasis the pain is more cramp-like, more localized in the parasternal region, extending to the back and downward. Two fingers' breadth from the twelfth dorsal of the right side there is a painful point on pressure. Attacks occur, as a rule, at night and when stomach is empty.

PROGNOSIS is generally favorable, but recurrences may be predicted. Death rarely takes place suddenly from hemorrhage. Peritonitis from perforation is more common. Stenosis at the pylorus may be due to the cicatrix in healing. If perforation occurs, there is sudden severe pain attended with collapse. This pain may be referred to the back as high as the eighth dorsal vertebra.

TREATMENT.—Milk diet. This tends also to neutralize the acidity. Add lime water and give it cold at regular intervals.

Ulcer Complicated by Neuralgia.—Absolute rest in bed, small ice compresses over the region of the stomach, abstinence from food, nourishment per rectum, as by—

℞ Milk.....	℥ iv.
Yolk of eggs.....	No. ij.
Salt	3 i.
Red wine	℥ ss.
Starch	gr. xx.

First free the bowels with a warm-water clyster and inject the above, warmed to the proper temperature, three times daily.

In continued hemorrhage, inject into the abdominal wall over the stomach region:

℞ Ext. ergotæ fld. (filtered).....	℥ xv.
Acidi carbolic.	℥ i.
Aquæ destillatæ.....	3 i.

After hemorrhage, rest on back, ice bag or coil over the stomach. Rectal alimentation for a few days; then milk, weak coffee, the yolk of an egg stirred up in Vichy water, and after ten days return to drug medication; some easily digested form of iron if anæmia is marked.

For the painful crises:

℞ Exalgin	gr. xlv.
Extract of belladonna,	
Codeine phosphate	ãã gr. v.
Sugar of milk.....	gr. lxxv.
Mix and divide into ten cachets. Dose, one to be taken at the onset of pain.	
—BOAS.	

After the diet has been carefully regulated orthoform gives prompt relief from pain.—F. H. MURDOCK.

To prevent intense pain after eating in gastric ulcer, dyspepsia nervosa, and other conditions of hyperacidity (gastric):

℞ Magnesiae,	
Bismuthi subnitratis.....	ãã 3 ij.
M. div. in pulv. No. xii. S. One powder half an hour before each meal.	
—BARUCH.	

In suspected superficial ulcer or abrasion of the gastric mucosa, and especially when fermentative changes are evident, practice lavage and follow it with a solution of nitrate of silver:

℞ Argenti nitratis gr. v.-x.
 Aquæ ℥ viij.

Pour through the tube and allow to remain for a moment before siphoning off.

Caution.—It is well to begin with very weak solutions.—
 S. S. JONES.

The danger from a soft tube is much lessened if we cocaine-ize the throat.—METCALFE.

Stomach Lavage :

℞ Sodii biborat 3 ij
 Creolini gr. iv
 Acidi salicylici gr. xvij
 Thymolis gr. iv.

Use in washing once a day after a clear-water lavage by means of a siphon tube.
 —ROSENHEIM.

Rectal feeding, giving nothing by the mouth for about ten days excepting a little water, ice, or weak brandy and water.

Rest in bed, poultices.—RATJEN.

For the nausea and vomiting :

℞ Ext. belladonnæ gr. ½
 Argenti nitratis gr. ½
 For one pill.
 —WOLFF.

To enable stomach to tolerate food, resorcin, gr. v. t.i.d.
 It is antiseptic, hæmostatic, analgesic.

In Long-Standing Ulcer, as Well as in the Acute.—Early in the morning, and on an empty stomach, the patient gets three hundred grains of bismuth subnitrate stirred up in six ounces of warm water, and washes it down with a few mouthfuls more of water. He then lies quiet on his back in bed for an hour with the pelvis somewhat raised, thus insuring that the posterior wall of the stomach which is the most frequent site for an ulcer, has the greater portion of the bismuth salt deposited on it. The patient is not confined to bed, and is dieted on milk, stale bread, biscuits, etc., large quantities of butter, and soups thickened with rice, sago, etc. In a short time there may be added to this shredded raw meat or ham, or a soft-boiled egg,

and gradually there may be allowed a return to ordinary food, avoiding things which are notoriously indigestible.—WITTHAUER.

In perforation the only real chance of ultimate success lies in operation after the shock. The immediate requirements include absolute quiet in the horizontal position, rectal feeding and medication, unless the latter is given subcutaneously, as morphine.—BARLING.

In very severe hemorrhage surgical intervention is not recommended.

Potassii bichromas, gr. $\frac{1}{10}$ — $\frac{1}{12}$ two or three times daily.—
T. R. FRASER.

To neutralize gastric contents and prevent auto-digestion :

℞ Magnes. ustæ,
Sodii carbonatis,
Potassii carbonatis.....āā 5
Sacch. lactis..... 25
M. S. Half a teaspoonful dry on tongue every three hours.—HEMMETER.

To correct hyperacidity :

℞ Magnesiae ustæ..... 3 ss.
Bismuthi subnitratis,
Sodii bicarbonatis.....āā gr. x.
Pulv. opii..... gr. i.
Lactose..... gr. x.
S. For one powder.

For hæmatemesis, after a hypodermic of ergotin :

℞ Ergotini..... 3 i.
Acidi gallici gr. x.
Ext. opii..... gr. ij.
Spir. terebinthinæ..... 3 iiss.
Syr. simplicis..... ℥ i.
Aquæ..... ℥ iv.
M. S. Teaspoonful every two hours.

If vomiting is incoercible :

℞ Picrotoxin gr. i.
Morphinæ hydrochloratis..... gr. i.
Atropinæ sulphatis..... gr. $\frac{1}{10}$
Ergotin gr. xx.
Aquæ..... 3 ij.
Spt. vini rectificati..... q.s. ut solut.
M. S. Gtt. viii. to gtt. x. in water, repeated as necessary.

In putrid fermentation accompanying constipation, enemata of antiseptic solutions and—

℞ Calomel.....	gr. ij.
Jalap	gr. vi.
Magnes. hydrat.....	gr. xx.

For subsequent anæmia and debility, perchloride of iron for ten or twelve days.—A. ROBIN.

To allay muscular irritability, quiet pain, and allay thirst, some preparation of opium.

Nourish by rectum or give peptonized milk and lime water.

Caution.—Bicarbonate of sodium is not a safe substitute, because of the evolution of gas.

Add beef peptones and eggs to dietary, and by degrees permit a more liberal diet.—F. P. HENRY.

Wash out stomach, inject an alkaline solution, pour in an emulsion of bismuth.—VON LEUBE.

Surgical intervention; pyloroplasty and gastro-enterostomy when methodical treatment long persisted in has been fruitless.

Stomatitis Aphthosa.

Aphtha, follicular stomatitis, vesicular stomatitis, or canker, occurs as grayish-white or yellowish spots of exuding fibrin upon the inner surface of the cheek or lips, or upon the margin, the tip, and sometimes the dorsum of the tongue. A superficial ulcer results from rubbing off the dead epithelium, but it usually heals quickly. It is seen in adults at times as well as in children, especially in the debilitated and in women during menstruation, pregnancy, etc.

DIFFERENTIATION.—It is distinguished from herpes or pemphigus by the characteristic fibrinous exudate which forms over the hemp-seed to pea-sized lesions in the various regions. The small white, yellowish-white, or yellowish flakes form upon the most superficial portions of the mucous membrane. In noma there is necrosis and loss of substance, the result of a diffuse parenchymatous inflammation. Ulcerating stomatitis gives a

sensation of swelling and pulsation, while aphthæ are attended with considerable pain and sensitiveness to hot and spicy articles. From sprue, when it is disseminated, by the microscope, which shows the *oidium albicans*.

PROGNOSIS is good. Cure should be effected in about a week. When, however, an abundance of lesions have formed in the posterior parts and occasioned œdema of the glottis, the prognosis is bad.

TREATMENT.—Being an infectious disease, prophylaxis is required. Treat the accompanying gastro-enteritis, bronchitis, eczema, etc. Alkaline washes.

Paint with a solution of boric acid in glycerol. When obstinate touch with:

℞ Argenti nitratis gr. v.
Aquæ destillatæ ʒ i.
—MARSHALL.

In erythematous stomatitis wash the child's mouth after each meal with:

℞ Sodii boratis 3 ss.
Sodii bicarbonatis 3 i.
Aquæ destillatæ ʒ iv.
M.
—MORAIN.

Or, *when pultaceous*:

℞ Sodii biboratis,
Glycerini āā 2 gm.
M.

℞ Hydrozone 1 part.
Aquæ 5 parts.

Followed by:

℞ Sodii boratis 3 ij.
Glycerini 3 iv.

In infectious stomatitis, for intestinal antisepsis:

℞ Bismuth. salicylatis 3 ss.
Div. in pulv. No. x. S. One every two hours.

Paint the affected areas four or five times with:

℞ Borax	4 parts.
Tincture of myrrh.....	8 "
Syrup of mulberries	60 "

M.

℞ Sodium phosphate	10 parts.
Orange-flower water.....	25 "
Honey of roses	50 "

M.

℞ Calcium chlorate	3 parts.
Honey	20 "

M.

℞ Potassium chlorate.....	3 parts.
Distilled water	60 "

M. Apply four or five times a day.

—LEVI.

℞ Sodii boratis	4
Tinct. myrrh.....	8
Syrupi.....	60

℞ Acidisalicylici.....	3
Spt. vini rectific.....	10
Glycerini.....	20

—HIRTZ.

℞ Potassii chloratis.....	4
Aquæ destillatæ.....	200
Tinct. myrrh.....	8

S. To inject into the mouth.

—MONTI.

In obstinate cases with great pain, especially affecting the tongue:

℞ Sodii salicylatis	20
Aquæ destillatæ	100

S. As a wash.

℞ Hydrargyri chloridi corrosivi.....	0.2.
Aquæ destillatæ	100

S. To apply with a brush.

—LEVI.

℞ Distilled water,	
Glycerin.....	āā 3 iiss.
Iodine,	
Iodide of potassium.....	āā gr. vi.

M. S. Apply to lesions.

—MARFAN.

Stomatitis Gangrenosa.

Cancrum oris or noma begins as an infiltrated area, usually near the angle of the mouth or centre of the cheek, which soon gives way to a perforating gangrenous process, which may rapidly destroy the cheek, portions of the jaw, and generally the life of the sufferer. It is said never to occur in infants at the breast.

DIAGNOSIS.—It occurs in those subjected to unhealthy surroundings, affecting children usually not over five years of age, showing a decided preference for those debilitated or convalescing from measles, pertussis, scarlatina, or typhoid fever. Adults are very exceptionally affected. It is now fortunately rare.

DIFFERENTIATION.—In malignant pustule we have a history of contagion; the constitutional signs are of greater severity, and examination reveals the bacillus of anthrax. Ulcerative stomatitis in its severe form may be simulated, but involvement of the whole thickness of the cheek in rapid destruction excludes any ordinary stomatitis.

PROGNOSIS.—It is only by instituting immediate and energetic treatment that any hope of saving life exists.

TREATMENT.—Clean out thoroughly, remove necrosed tissue, and pack with subnitrate of bismuth.—MACGUIRE.

When malarial cachexia coexists give quinine, according to condition and age, and apply:

- R Cupri sulphatis 3 iv.
- Pulv. cinchonæ rub.,
- Pulv. cinnamomi cort.....āā 3 i.
- Aquæ 3 vi.
- M. S. To be applied on a cotton swab every six hours.

—W. M. CUMMINGS.

Electro-thermal cautery to destroy all gangrenous tissue.

Free use of Thiersch's solution:

- R Acidi boracici..... 3 ij.
- Acidi salicylici..... 3 iij.
- Aquæ 0 viij.

—MARSHALL.

Stomatitis Mycotica.

Parasitic inflammation of the mouth, or thrush, as it is sometimes called, presents grayish-white deposits upon the various mucous surfaces lining the mouth, especially in bottle-fed infants.

DIAGNOSIS.—The minute white and yellowish elevated spots unite at times into larger areas, surrounded by an inflammatory areola, and forcible removal causes bleeding. It attacks nursing children, especially those in institutions, and in whom the most scrupulous cleanliness is not maintained. Debilitated adults may occasionally develop the affection.

DIFFERENTIATION.—The microscope will show the form of stomatitis by disclosing the presence of the *oidium albicans*.

The appearances after a few days suggest soft cheesy flakes or curds, while in aphtha a pseudo-membrane covers the patch, which, when removed, discloses a livid base.

PROGNOSIS.—In debilitated children occasionally fatal. In debilitated adults a bad symptom. Thrush with gastro-enteritis may prove fatal.

TREATMENT.—Care in feeding appliances; cleanliness. Castor oil. Potassii chloras, gr. i.–iii. t.i.d., is specific in its action.—DAY.

℞ Sulphite of sodium..... 3 i.
 Water..... 3 i.
 M. S. Apply.

—SIR WM. JENNER.

In thrush of children :

℞ Sodii salicylatis,
 Sodii boratis.....āā gr. x.
 Acidi carbolicī..... gr. ij.
 Glycerini..... 3 ij.
 Aquæ rosæ..... q.s. ad 3 i.
 M. S. Apply locally.

—STARR.

In Infants.—Impregnate sterile absorbent cotton with three grains of finely powdered boric acid and a minute quantity of saccharin. Enclose in a bag of silk or batiste and give to the

child to suck. A fresh bag is supplied daily or twice a day, and the cure is promptly effected since the drug is kept almost continuously in contact with the *oidium albicans*.—ESCHERICH.

Stomatitis Ulcerosa.

In putrid sore mouth or fetid stomatitis, various-sized ulcers of ashen-gray color with red areola are present, always starting from the gums, which tend to bleed readily. The breath is fetid; the gums are spongy and partly cover the teeth.

DIFFERENTIATION.—A milder form is that in which superficial rounded ulcers follow the so-called canker sores often seen in adults.

The loosening of the teeth and swelling of the gums at times suggest scurvy, but other symptoms are absent, as well as the conditions upon which scorbutus depends. In infants symmetrically distributed ulcers in the roof of the mouth are to be distinguished from Bednar's aphtha and ulcerations produced by washing out the mouth in newborn babes, or those due to pressure of a rubber nipple; from syphilitic sore mouth by the occurrence of typical, less inflammatory, and more widely distributed mucous patches, and by other signs of lues; from mercurial ulceration, which also has a marked fetor of the breath, ulceration, and loosening of teeth, by a more pronounced salivation, and history that mercury has been employed.

TREATMENT.—Correct unsanitary surroundings. Treat underlying debility. Relieve gastric disturbance.

Glycozone frequently applied.—EDSON.

Glycerite of tannin; alum.—RINGER.

In nursing children :

℞ Acidi salicylici..... 1 gm.
 Alcohol.....enough to dissolve.
 Aquæ destillatæ..... 100 gm.
 M. S. Apply five or six times daily.

℞ Acidi hydrochlorici 8
 Mellis,
 Glycerini.....āā 20

M. S. Apply with a camel's-hair pencil.

—COMBY.

Or—

℞ Acidi thymici (thymol)..... gr. iv.
 Acidi benzoici..... ʒ ij.
 Tinct. eucalypti..... ʒ ss.
 Spt. vini rectificati..... ʒ iiij.
 Essen. menthæ pip..... gtt. x.

S. Drop enough into a glass of water to cause turbidity, and rinse the mouth morning and night.

—MULLER.

℞ Tannin..... 3 ij.
 Tinct. iodine..... ʒ iv.
 Potassium iodide..... ʒ i.
 Tinct. myrrh..... ʒ iv.
 Rose water..... ʒ viij.

A dessertspoonful in a small glassful of warm water is used to wash the mouth with thoroughly every morning.

Or—

℞ Sodii hiboratis..... 3 iss.
 Sodii bicarbonatis..... 3 ss.
 Thymol gr. iiij.
 Glycerini..... 3 i.
 Aq. laurocerasi.....q.s. ad ʒ iv.

M. S. Use as a wash.

℞ Thymol gr. iiij.
 Benzoic acid gr. xl.
 Tincture of eucalyptus..... 3 iiij.
 Essence of peppermint..... gtt. xx.
 Alcohol ʒ iiij.

Pour enough into a glass of water to render it turbid, and use as a mouth-wash.

—THOMAS.

In mercurial stomatitis :

℞ Liq. plumbi subacetat..... ʒ i
 Aquæ..... ʒ viij.
 Wash mouth every two hours.

—S. D. GROSS.

For antiseptic gargle :

℞ Salol... 2
 Acidi boracic 10
 Alcoholis 40
 Aq. bullient ʒxxx

℞ Potassii permanganatis.....	1
Aquæ.....	1,000-2,000
℞ Methylene blue.....	3
Water.....	100
M. S. Apply with applicator.	

For irrigation :

℞ Acidi carbolici.....	1
Acidi boracici.....	25
Thymol.....	50
Spir. menthæ piperitæ.....	20 gtt.
Tinct. anisi.....	10
Aquæ.....	1 litre.

—DUJARDIN-BEAUMETZ.

Sunstroke.

Thermic fever or heatstroke presents a sudden loss of consciousness, with muttering delirium and perhaps convulsions. The surface is at first dry and subsequently may be covered with perspiration. The pulse is usually full but compressible.

DIAGNOSIS.—The most pronounced diagnostic feature of insolation is a very high temperature, reaching perhaps 113° F. The pupils are dilated. A history of prolonged exposure to high temperature or to the direct rays of the sun aids in diagnosis, although a body temperature of 108° F. or over justifies it.

DIFFERENTIATION.—From apoplexy, which has hemiplegia and one pupil dilated. From syncope occurring in hot weather by the absence of fever. From alcoholism, which gives an odor in the breath, etc. From heat exhaustion, which has a marked fall in temperature and pulse. From hysterical fever, by lack of stigmata and precautions that, if patient is conscious, artificial means are not employed by him to cause rise in the mercury.

PROGNOSIS.—Death may occur with brief delay, but life may be prolonged and sometimes saved by prompt and thorough treatment, even after the temperature has marked 110°

F. (112° F., W. G. Thompson). The mild form is recovered from, while fifty per cent die after a severe stroke.

PROPHYLAXIS requires abstinence from alcoholic drinks, avoidance of undue exposure in heated rooms and overexertion in times of great heat, and rest from work when headache, dizziness, etc., give warning of an impending stroke.

TREATMENT.—The chief point in successful treatment is to lower the bodily temperature at once.

Cool baths, to which ice is from time to time added, are employed for this purpose. The patient is placed in the bath at about 40° F., and the surface rubbed vigorously by the hands of the attendant or with pieces of ice, until the rectal temperature shows a decided decrease. The bath is renewed as often as the temperature again approaches a dangerous elevation.

In the absence of bathing facilities place the patient upon a hard mattress covered with a rubber sheet, and rub the naked body vigorously with pieces of ice while ice cloths are applied to the head, or pour cold water over the surface.

High temperatures cannot be safely reduced at greater rapidity than one degree in three or four minutes.—THOMPSON.

Bath with cutaneous friction, after the Brand method.

Surprisingly good results have been obtained from the combined use of affusions of cold water, ice-water enemata (one-half to one pint).

As an efficacious stimulant, pour a fine stream of water from an elevation upon the forehead for one or two minutes at a time.—G. F. CHANDLER.

R Digitalis (French)..... gr. $\frac{1}{16}$
 Strychninæ..... gr. $\frac{1}{16}$
 Aquæ destillatæ... q.s.

M. S. Inject hypodermatically, and repeat according to the effect on the pulse in from half an hour to an hour's time, or until three or four such doses have been administered.

—JOSEPH EICHBERG.

In the depressed type, with high internal temperature and cold surface, do not rely upon remedies subcutaneously administered any more than you would upon those given by the stomach. Resort at once to rectal medication.

In the anæmic form of insolation, remove patient to a cool, shady place, with the head lower than the knees, and inject subcutaneously twenty minims of aromatic spirits of ammonia, to be followed by:

℞ Strychninæ sulphatis gr. $\frac{1}{8}$
 Atropinæ sulphatis gr. $\frac{1}{60}$
 Glonoin gr. $\frac{1}{8}$
 M. f. hypo. S. One dose.

In the congestive form, with violent pains in the head and back of neck, strip the patient in a cool place and apply cold in some form, preferably by means of a garden hose, allowing the stream to strike the surface with considerable force.

℞ Tinct. strophanthi ℥ x.
 Tinct. aconiti radiceis ℥ ij.
 Glonoin gr. $\frac{1}{8}$
 Hypodermatically. Repeat in two hours.

—FABRICIUS.

Caution.—Do not give any drugs, as a rule, that depress the heart.

When convulsions occur, chloroform inhalations, or, if fear of depressing the heart, sol. Magendie, ℥ x. subcutaneously for an adult dose.

To abort or relieve meningitis in sthenic subjects showing apoplectic symptoms after the bodily heat is reduced, venesection.—PEPPER.

For the after-headache, if the pulse is strong:

℞ Tincturæ veratri viridis ℥ x.
 Sodii bromidi ℥ xij.
 Aquæ q.s. ad $\frac{3}{4}$ ij.
 M. S. Shake well and take a teaspoonful before meals and at bedtime.

If the pulse is weak:

℞ Sodii bromidi ʒxvi.
 Extracti ergotæ fluidi.... 3 i
 Aquæ.....q.s. ad ʒij.

M. S. Take one teaspoonful three times a day and at bedtime, in a table-spoonful of water.

—R. C. M. PAGE.

In full-blooded subjects, bleed. In prolonged unconsciousness, nourishment by stomach tube. When consciousness returns, alcoholic stimulation.—CHANDLER.

Syphilis in Early Life.

During infancy and childhood it is important to distinguish not only between this disease and the various exanthemata and skin affections incidental to early life, but also between the congenital and the acquired form. The lesion upon the mouth in a nursing child may be the primary sore acquired from a parent or an infected nurse, and will often present much the same features as the initial lesion in the adult. Here the first eruption is seen at the earliest, even when the disease is acquired from the mother during parturition, some weeks after birth, or after the appearance of the lesion at the point of inoculation.

DIAGNOSIS.—The family history must be relied upon for the basis of our diagnosis as between the congenital and acquired forms, when no lesion corresponding to a chancre can be made out. The eruption occurring within the first three months of life, presenting moist forms near mucous membranes and in the flexures, attended with catarrhal inflammation of the nose causing snuffles, while the child gradually becomes anæmic and loses in weight, is much more apt to be of congenital than of acquired origin. Likewise in the later years of childhood re-

tarded growth, interstitial keratitis, sunken bridge of the nose, and the incomplete development of the teeth, which are irregular in outline and show a peculiar vulnerability and proneness to decay, are to be regarded as signs of lues of congenital origin, especially when accompanied by characteristic eruptions. The permanent teeth, and especially the central incisors, show a malformation which, when taken in conjunction with the other signs, is of the first importance. The teeth are pointed from above downward, and are usually separated much more at the cutting border than at the gums. There is an atrophy giving a single notch in the centre of the cutting edge, of crescentic shape, with lack of enamel and discoloration of this part, often running up upon the face of the tooth. The anterior tooth surface is somewhat rounded.

While examination of the teeth is of great importance, still it is never safe to affirm or deny the existence of lues upon this symptom alone. In a long record of cases I have excluded the disease in many instances in which many of the permanent teeth, both upper and lower, would suggest its existence, and, conversely, many individuals tainted from birth are found to have normal teeth. A shallow groove extending from the free margin almost to the gum upon both anterior and posterior surfaces of the tooth is regarded by many as adding to the signs pointing to congenital lues.

Congenital Lues at Birth.—An eruption present upon the surface at birth is in itself strong circumstantial evidence of its being specific in nature. It does not follow by any means that a perfectly healthy appearing infant may not be so profoundly affected that, at death within a few weeks, characteristic changes will be found in various internal organs. In many instances the skin is wrinkled, the infant is poorly nourished, has an aged look with drawn expression of countenance, and a brownish discoloration may occur upon the forehead or about

the region of the mouth. While polymorphism is here as everywhere in syphilis a leading characteristic, the chief forms of lesion observed at this time are macular, roseola being present in about forty-five per cent of instances, in association with the papular form in about the same proportion; papular, especially in the form of moist papules; papulo-squamous, vesicular, pustular, and bullous. These, too, may occur in various combinations. While bullous and pustular lesions present at birth or which develop within a few days of birth are most likely due to lues, their true specific nature is decided by the localization upon the palms, soles, fingers, and toes. The contents are of a yellowish or greenish hue, or may be wholly pustular or even hemorrhagic. The number of lesions may vary from half a dozen, limited to the feet and hands, up to one hundred or more scattered over all surfaces. The size varies from that of French peas to that of lentils. Unless the mother presents at the same time some manifestation of the disease, we may have to depend wholly upon the symptoms in the child for our diagnosis, throwing out altogether the negative history given by the parents. The weazened appearance giving the old-woman facies, when not accompanied by eruptions or evidences of the disease implicating internal organs, must not be confounded with conditions of marasmus due to other processes. In the specifically affected infant there is usually a condition of snuffles. The coppery or *café-au-lait* discoloration often present upon the chin, sometimes in circles, is not to be confounded with the earthy hue observed in older subjects having chronic diarrhœa.

DIFFERENTIATION.—Pemphigus neonatorum is rarely present at or so soon after birth; ulcers do not result and such thick crusts are not formed. If death does not occur, as it usually does, paronychial swellings may come on, the matrix becoming diseased, and suppuration resulting in shedding of the nails. While pustular eruptions are more often found in the newborn

than the papular, the two may coexist, and in certain conical papules or tubercles suppuration may begin at the apex. This eruption is usually sparse, with few lesions scattered over the face, buttocks, and extremities. The concomitance of the two forms may serve to differentiate from the greenish papules of septic origin when the mother has puerperal septicæmia. The erythematous blush of the perineum and buttocks followed by ecthyma may closely simulate lues, which, however, is excluded by the history and the absence of other confirmatory symptoms. The specific eruption occurs upon any portion of the surface, while true ecthyma is confined chiefly to this region and the lower extremities. Petechiæ and purpuric spots when due to lues are usually accompanied by other manifestations, including bullous and pustular lesions, and icterus is often present. Fissures and rhagades frequently accompany the mucous papules in and about the mouth and anus. They may be present about the joint flexures and commissures of the eyelids. The nails are often undeveloped or deformed.

Syphilis in the Adult.

Acquired lues in the adult always begins with some point of inoculation, whether it be observable or not. The chancre, when found, may present a variety of forms. It occurs either as an erosion, as a papule, or as a rounded, raised, infiltrated area with central crater-like ulceration taking place at the expense of the infiltrated tissue, and usually attended with a characteristic induration or feeling of hardness when grasped between the fingers. Upon many skin and mucous surfaces the cartilage-like character of the induration may be lacking. From chancreoid the ulcer is distinguished by its little tendency to spread, its not undermining the surrounding skin, and the fact that it is accompanied by glandular enlargements which do not go on to suppuration.

DIAGNOSIS.—The various eruptions of lues are characterized and distinguished by their slow development, chronic course, multiformity of lesions in the different outcroppings, freedom from pruritus and fever, and by being accompanied by lesions in the mouth and throat.

The early roseola or macular eruption may be so slight as to escape the patient's notice. When infection is suspected, but the papule forming at the point of inoculation has not been typical, or the ulcer has resembled more a chancroid because virus of two kinds has been inoculated at the same time, or when marked induration has not been present in the primary lesion located on the lip, tonsil, tongue, or any surface of the integument, frequent inspection of the whole body by the physician is necessary. Rounded spots of rosy or red tint appear as though beneath rather than upon the surface, and, when first occurring upon the trunk, about the umbilicus, or following the direction of the ribs, are often more distinct in an oblique light.

They vary in size from that of a pea to that of a bean, increase but little after becoming fully formed, show little tendency to run together, do not form circles, and usually require a week's time to become well developed and generalized. The face frequently, and the dorsum of the hands and feet usually, escape, but the palms and soles often present macules; and here, contrary to the rule, desquamation occurs, or small dry horny plugs form in the centre of the erythematous area. Mucous plaques develop at the same time in the mouth or about the anus as flat condylomata, and the tonsils are most apt to become superficially ulcerated.

In subjects with seborrhœa, macules developing about the hairy margin of the forehead and lateral aspects of the chin commonly crust over with yellowish scales.

A hyperæmic condition about the hair and sebaceous follicles may occasion a prominence not seen in the macule, as well as a deeper red tone.

DIFFERENTIATION.—If the patient presents himself first with a circinate erythematous eruption without history of infection or preceding roseola, it must be distinguished from a form of erythema multiforme due to one of many internal causes; nothing here comes to our aid so much as the nodular swellings of lues. If, as sometimes happens, the rings are slightly raised and scaly, ordinary ringworm of the surface might be thought of, but they do not show the same tendency as the latter to spread at the periphery, but may remain stationary or relapse over a long period of time.

The absence of *Tricophyton* in the scraped-off scales would exclude *tinea circinata*.

Scarlatina gives a more acutely active eruption, and the high fever and throat symptoms would readily distinguish it from an early roseola. *Rubeola* would have catarrhal symptoms, with coryza to dispel any doubt. Medicinal rashes are not so readily differentiated, and one occasioned by mercury, either given internally or applied to the skin, while the nature of the case was still in doubt, might seriously confuse. The macules are large in most drug eruptions. If, because of a discharge from the urethra cubebs or copaiba has been given and a rash follows, it is not always safe to say the latter has been caused by one of these drugs. A boy came to me a number of years ago at Bellevue Dispensary with a roseola and a history that a druggist had prescribed for his gonorrhœa. The discharge was in reality due to an infecting sore within the meatus, which in turn had caused the eruption and not the copaiba which he had been taking. The copaiba rash often, too, presents raised lesions, more like those of urticaria.

Pityriasis rosea with its macular and circinate spots extending at the periphery, clearing in the centre, some plaques attaining the size of the palm or even a dinner plate, and attended with desquamation, may be confounded, especially in its onset, with the macules of lues. The scaling and peculiar

gradual manner of spreading usually suffices for the differentiation.

Pityriasis versicolor occurring as large and small yellowish patches, like pigment stains upon the chest, has been mistaken for the pigmentation left after the erythematous syphilide, and when of recent development and somewhat pinkish for a macular syphilide itself. Examination of the scrapings shows the characteristic clustered spores and mycelium of *Microsporon furfur*. The papular eruption, which may accompany the macular or follow it in the course of a few weeks or more, is distinguished from other papular eruptions by the uniformity, firmness, raw-ham, coppery, or deep brownish color, and lack of itching.

If scaly lesions are present, the scales do not have the silvery lustre of those of psoriasis, nor are they grouped about the elbows and knees, as is so common in the latter disease.

Upon the palms and soles early papules remain diffuse rather than become confluent; there is no oozing or discharge, as in eczema.

A small papular eruption may be seen quite early with lesions no larger than a pinhead, either conical, rounded, or flat, and showing a tendency to group themselves in small patches of circular outline. The color is deep red at first, becoming duller, and fine scales may perhaps form upon the apices of the lesions. This is not easily confounded with any ordinary skin disease, excepting possibly lichen.

Tubercular eruptions coming at an early stage upon the face may simulate variola, especially when suppuration occurs in many of the tubercles, and particularly if, as sometimes happens, umbilication takes place.

In another pustular variety, acne vulgaris might come into question, but the latter would not be found upon the trunk, extremities, and scalp to the same degree, and the fresh lesions of acne are of a more pinkish-red, and there are comedones.

an absolute one, it is convincing in most instances if the drug has been pushed.

Indeed, the fact of prompt recovery under antisyphilitic treatment of a man over thirty years of age presenting nervous manifestations not attributable to tabes, progressive paralysis, or clearly conforming to the clinical picture of well-recognized nervous disorders, can be set down to syphilis, even in the entire absence of history. Polyuria, polydipsia associated with muscular weakness, somnolence, etc., may suggest polio-encephalitis superior.

Convulsive seizures may simulate epilepsy, but the aura and cry are usually wanting, and there may be no unconsciousness. As aids we have history of headaches, aphasia, mental confusion, hebetude, loss of memory, motor paralysis, etc., and especially the specific history, if one is obtainable.

If tabes and progressive paralysis can be definitely excluded, ninety per cent of instances of cerebral syphilis will be susceptible of cure. —TARNOWSKY.

PROGNOSIS.—This depends largely upon the age of the lesions at the time of beginning treatment. Earliness of treatment is the most important consideration.—BARNEY.

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The prognosis accordingly depends upon whether the process is limited to a productive inflammation of the membranes or connective tissue of the brain, or whether there exists in conjunction with or independently of this inflammation disease of the large arteries which may cause a diminution or loss of vascular supply to the cerebral structures. The prognosis varies with these conditions, not only on account of the increased danger of thrombosis *per se*, but as well from the fact that antisyphilitic treatment is much less effectual in arterial disease than it is when the morbid process is a gumma or a meningitis. Under

all circumstances the prognosis should be guarded, for in cerebral syphilis thrombosis may occur at any time.—G. E. BREWER.

Syphilis, Cerebro-Spinal.

The diagnosis of luetic diseases of the central nervous system is still involved in some obscurity. They are, however, to be differentiated from general paresis, from cerebro-spinal sclerosis, from tuberculous disease, from tabes, and from syringomyelia, while luetic cerebro spinal meningitis is itself to be differentiated from basilar disease of specific origin. According to Sachs, we may have cerebro-spinal meningitis luetica and specific meningo-myelitis or a meningo-encephalitis together with one or more special gummatous deposits.

When the upper portion of the medulla is affected we have pains in the nucha, between the shoulders, which must not be mistaken for symptoms of neurasthenia or for rheumatism, or neuralgia. A point of importance is the patient's inability to run while symptoms are still slight. There are exaggerated patellar reflex and most likely inequality of the pupils.

Prognosis.—Unless treated in time, Erb's spasmodic paraplegia is apt to develop, after which cure is almost impossible.

Syphilitic dementia resembles general paresis. Here the patient is depressed because he is unable to attend to his business, and suspects that his friends realize this. He sleeps well at night and often by day. He is very particular about certain parts of his dress and negligent about other portions. He is irritable, and the symptoms vary from day to day.

In melancholia, on the other hand, there is depression uninfluenced by the subject's surroundings. There is insomnia, and the patient is universally neglectful of his dress. He is seclusive rather than irritable.—SPITZKA.

The characteristics of the dementia secondary to syphilis, as opposed to the idiopathic general paralysis of the insane, are as follows: Precedent syphilis; precedent headache, continuous,

intense, worse at night; precedent or coexistent hemiplegia, aphasia, or paralyzes of cranial or other nerves, having the irregular characteristics of development and course already described. Greater variety and more fantastic combination or sequence of symptoms. Absence or inconspicuousness of the delusions of grandeur and of the tremors of face and tongue. And, finally, the beneficial effects of thorough antisyphilitic treatment upon many of the symptoms.—**BARNEY.**

TREATMENT.

Personally, and contrary to many recognized authorities, I begin treatment as soon as the diagnosis of infection is made from the local changes at the site of inoculation. I have practised and advised wide excision of the chancre when suitably located, not as offering any great chances of aborting a process already at this time probably going on in the blood, but simply to get rid of so much localized virus. Such nearby nodes as are involved may be removed in the same manner, or an injection of mercury may be made into the substance of each node separately, or local inunctions of mercury may be carried out over the enlarged nodes and about the chancre. Constitutional treatment may be begun at once, either by the mouth, by inunction, or by injection. I have never yet observed any contraindication to instituting treatment at the earliest possible moment, but on the contrary have seen deplorable results, which I could attribute only to the delay in beginning and to inadequately carrying out treatment. My notebooks show many instances, extending now over a sufficient number of years, in which treatment was begun as soon as diagnosis of the infecting sore was established. The course of the disease in these instances has frequently been among the most favorable in my experience. So far there has been no instance of cerebral syphilis. A point I wish to make prominent is that in not a single instance in which mercury was begun before con-

firmatory evidences appeared, did early consecutive manifestations fail to occur. The importance of this is apparent to those who read in almost every work on the subject that, if mercury is begun too early, one never knows whether the disease really was syphilis or not. If mercury thus given were capable of constantly preventing the manifestations of the disease, it would be the strongest possible argument for giving it at the earliest moment. Such, however, is not the case. I have never yet observed a patient thus treated in whom there did not show during what is usually termed the secondary stage sufficient skin, mucous membrane, and lymph-node changes to confirm the diagnosis.

On the other hand, these are rendered so much less severe and are removed so much the quicker, as a rule, that until I become convinced of an aggravation of the later symptoms (which I have not yet seen) I shall continue to practice and teach as heretofore.

Whatever form of administration is chosen, an occasional interruption is wise. In giving inunctions I order the frictions (3 ss. - 3 i.) carried out for the six working days, with bath and rest on the seventh day. At the completion of a course of twenty-four to thirty or thirty-six rubbings I let the patient omit general treatment for a time, unless urgent symptoms are present. In the absence of pronounced manifestations medicines may be given by the mouth for three weeks, followed by a two-weeks' rest.

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DIAGNOSIS.—The first intimation that more serious symptoms will develop may consist in mild or persistent headache, mental confusion, somnolence, vertigo, or slight difficulty of speech.

The headache may even be absent, although it is usually the most characteristic prodromal feature. Urinary disturbances may occur early, either as polyuria associated with polydipsia, incontinence of urine, chiefly nocturnal, or retention, and these may alternate in the same subject. A slight weakness or dragging of a limb may precede more characteristic manifestations. The occasional drooping of an eyelid, or of the corner of the mouth, or a squint of short duration affecting one eye, may be a symptom of cerebral syphilis as well as of brain tumor; but, if of frequent occurrence, is much more likely to be of specific origin. Morbid somnolence, especially if associated with epileptoid seizures or localized spasms, should be regarded with suspicion. Nocturnal headaches, especially if attended with mental disturbances and vertigo by day, and that peculiar difficulty of speech known as "word stumbling," furnish strong presumptive evidence of cerebral syphilis.

In subjects of hysteria the diagnosis is often difficult and complicated, the symptoms being all wrongly attributed to hysteria. A point strongly in favor of lues is the great irregularity of the symptoms, both in the time of the occurrence and in their combination. Ptosis of sudden development should cause syphilis to be suspected.

DIFFERENTIATION.—From apoplexy the acute paroxysm of cerebral congestion is distinguished by the absence of pronounced and prolonged loss of consciousness and by the absence of hemiplegia. Headache, too, persists after an attack due to syphilis, but not, as a rule, after an apoplexy. A strong point, and one upon which we must often depend, is the rapid disappearance of cerebral syphilitic manifestations under large doses of iodide of potassium, and, while this therapeutic test is not

an absolute one, it is convincing in most instances if the drug has been pushed.

Indeed, the fact of prompt recovery under antisyphilitic treatment of a man over thirty years of age presenting nervous manifestations not attributable to tabes, progressive paralysis, or clearly conforming to the clinical picture of well-recognized nervous disorders, can be set down to syphilis, even in the entire absence of history. Polyuria, polydipsia associated with muscular weakness, somnolence, etc., may suggest polio-encephalitis superior.

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Treat the chancre with *emplastrum hydrargyri*, dusting with calomel. Or—

℞ Calomel.
 Cerat. simp. 10
 M. S. Apply.

If phagedenic :

℞ *Acidi pyrogallici*. 10
Pulv. amyli. 40
 M. S. Apply.

℞ *Hydrargyri tannici*. gr. c.
Ext. hyoscyami. gr. xxv.
 M. ft. pil. No. c. S. One pill, four, six, or more times daily.

If the above prove too powerful, producing gastro-intestinal cramps or irritation, make pills of half a grain each.

In obstinate forms in which the usual remedies have not acted well, Zittmann's decoction, in one of its forms, is efficacious but not a palatable dose.

More often resorted to is the method by intramuscular injection.

The employment of insoluble forms of mercury—calomel suspension, gray oil—must still be looked upon as a method of exception. It is not justifiable to employ them in the routine treatment. In lesions threatening the integrity of important organs and menacing life their employment is imperative. Injections of soluble preparations give excellent results and may constitute the initial course to replace inunctions, or may be taken up at any stage when the patient is not doing well under other methods.

℞ *Pil. hydrarg.* gr. xx.
Ferri sulph. exsicc. gr. x.
Ext. opii. gr. v.
 Ft. pil. No. xx. S. One pill three times a day. —OTIS.

Mixed treatment is indicated if lesions still persist.

After about a year of mercury in one or another form the following:

- ℞ Hydrargyri bichloridi..... gr. i.-ij.
 Potassii iodidi..... ʒ ss.-i.
 Tinct. cinchonæ co ʒ iij.
 Aquæ destillatæ.....q.s. ad ʒ iv.
 M. S. Teaspoonful in water an hour after meals.

In subsequent stages :

- ℞ Potassii iodidi..... ʒ ij.
 Ammonii carbonatis ʒ ss.
 Tinct. cinch. comp..... ʒ iv.
 Syr. aurantii corticis..... ʒ iss.
 Glycerini..... ʒ i.
 M. S. A teaspoonful well diluted, after each meal. —KEYES.

- ℞ Hydrargyri bibiodidi..... gr. iss.
 Potassii iodidi ʒ iv.
 Syrupi..... ʒ ij.
 M. S. A teaspoonful. —E. A. BANKS.

- ℞ Hydrargyri biniodidi..... gr. ss.
 Potassii iodidi ʒ ij.
 Syr. sarsaparillæ comp.,
 Aquæāā ʒ i.
 M. S. A teaspoonful. —R. W. TAYLOR.

- ℞ Hydrargyri biniodidi..... gr. i.
 Potassii iodidi ʒ iij.
 Tinct. aurantii dulcis ʒ i.
 Aquæ..... ʒ iij.
 M. S. A teaspoonful. —THOMPSON.

Gibert's syrup :

- ℞ Hydrargyri biniodidi..... gr. i.
 Potassii iodidi..... ʒ i.
 Aquæ ʒ i.
 Filter through paper and then add :
 Syrupi simplicis..... ʒ v.
 M. S. Tablespoonful three times a day. To a child give from a quarter to half a teaspoonful.

Or, when the iodides are not well borne :

- ℞ Potassium iodide (sat. sol.)..... gr. clx.
 Essence of pepsin ʒ i.
 Sherry wine.....q.s. ad ʒ iv.
 M. S. ʒ i. in four tablespoonfuls of milk, according to directions.

Add to two ounces of warm milk and set away in a cool place. When coagulation takes place it is ready for use.—D. BRYSON DELAVAN.

It is claimed that the following may be given indefinitely without causing iodism:

R Potassii iodidi.....	℥ iss.
Ferri et ammonii citratis	3 ij.
Tinct. nucis vomicæ.....	3 ij.
Aquæ.....	℥ iss.
Tinct. cinchonæ comp	℥ ij.
S. Teaspoonful three times daily, in water, after meals.	

—SANDERSON.

Iodide of potassium, when it causes coryza and depression, can be best given with nux vomica and citrate of iron and ammonium.—HARDAWAY.

Sulphur baths may be given in conjunction with a course of inunctions to favor a greater penetration of the mercury. The mercurial ointment may be rubbed in two hours or more after the bath. This combination probably exerts a favorable influence upon the processes of nutrition.

R Hydrargyri protiodidi.....	0.03 cgm.
Ext. thebaic.....	0.01 "
Ext. cinchonæ.....	0.06 "
For one pill. Give one to five daily.	

—MAURLAC.

R Hydrargyri tannici	0.05 cgm.
Ext. thebaic	0.01 "
Ext. guaiaci.....	q.s.
For one pill. S. Two or three at each meal.	

—BALZER.

Intermittent Treatment of Syphilis.—In the first year of the treatment mercury should be given for six months and potassium iodide for three months, with a pause of three months; for the second or third years, for from two to five months, mixed treatment; for the third and fourth years, sulphur baths.—FOURNIER.

In obstinate phagedena, etc.:

ZITTMANN'S DECOCTION (STRONG).

℞ Rad. sarsap. cont	℥ iv.
Sem. anisi,	
Sem. fœniculi.....	āā 3 i. + ʒ i.
Fol. sennæ	℥ i.
Rad. glycyrrh. contus	3 iv.

And in a linen bag:

℞ Sacchar. alb.,	
Alum. sulph.....	āā 3 ij.
Hydrarg. subchlor	3 i. + ʒ i.
Hydrarg. bisulph. rub	ʒ i.
Aquæ cong.....	O vi.

Boil gently down to one gallon, strain, and put into four forty-ounce bottles.

ZITTMANN'S DECOCTION (WEAK).

To the dregs from No. 1 decoction add:

℞ Rad. sarsap cont.....	℥ ij.
Cort. limon.,	
Sem. cardam.,	
Rad. glycyrrh	āā 3 i.
Aquæ cong.....	O vi.

Boil gently down to one gallon, strain, and put into four forty-ounce bottles.

℞ Hydrarg. subchlor.....	gr. ij.
Ext. coloc. co	gr. v.
Ext. hyoscyami.....	gr. ij.
Ft. pil. ii.	

The patient is kept in a room at 80° F. The diet consists of: Breakfast—boiled egg or bacon, tea; no sugar or spices. Lunch—butcher's meat, vegetables; no fruit. Dinner—soup, fish, poultry. The evening before beginning the treatment the two pills are taken, and the next four days, at 9 A.M., 10 A.M., 11 A.M., and 12 M., half a pint of the strong decoction drunk very hot. At 3 P.M., 4 P.M., 5 P.M., and 6 P.M., half a pint of the weak decoction cold. The patient is kept in bed, except for one hour every evening. On the fifth day he is allowed to get up; he may have a hot bath and dress and is allowed a little brandy or whiskey and soda.

Iodide of potassium in pill form:

℞ Potassii iodidi	10 gm.
Sacchari lactis.....	5 "
Lanolin	8 "
M. ft. pil. No. 1. S. To be taken with considerable water.	—LANG.

In syphilitic plastic iritis, when quinine is desired in addition to the specific treatment, the following is useful:

℞ Sulphate of quinine gr. ij.
 Protiodide of mercury gr. $\frac{1}{2}$ – $\frac{1}{4}$
 Ext. of hyoscyamus gr. $\frac{1}{2}$
 For one pill. One such pill three to six times daily.—DE SCHWEINITZ.

Syphilitic neuritis:

℞ Benzoate of mercury 0.25 cgm.
 Pure chloride of sodium,
 Hydrochlorate of cocaine \mathfrak{ss} 0.06 cgm.
 Distilled water 80 gm.
 Inject one c.c. daily. —CHAMPENIER.

In subjects of malaria, hydriodate of quinine.—ASSAKI.

For pigmentary stainings left after eruptions:

℞ Hydrargyri bichloridi 0.20
 Ammonii hydrochlor. 0.60
 Aquæ Cologniensis 40
 Aquæ destillatæ 100
 M. S. Apply locally twice daily.

Syphilis of the Cord.—Most active measures are requisite. Vesication of the whole length of the vertebral column, followed by a dressing of mercurial ointment, has produced most marked improvement.—MAURIAC.

Nerve Syphilis.—The time of giving and the doses of iodide are the most important points in the successful treatment of nervous syphilis. An amount of from three hundred to six hundred grains of iodide of potassium in the twenty-four hours will make all the difference between failure and cure.—STURGIS.

Although gastric irritation is quickly produced in ordinary persons by large doses of iodide, in the cases under discussion very large quantities are not only tolerated, but often seem to act like a charm.—SPITZKA.

For children:

℞ Hydrargyri tannici (oxydulati) gr. iss.–iij.
 Sacchari albi gr. xlv.
 M. div. in chart. No. x. S. One every two or three hours. —MONTI.

℞ Hydrargyri chloridi mit. gr. $\frac{1}{16}$
 Ferri carb. sacchar gr. $\frac{1}{4}$
 Sacchari lactis. gr. ij.
 M. For one tablet. S. One t.i.d.

—WIEDERHOFER.

In Infants of Five or Six Weeks.—Sol. hydrargyri bichloridi (1–1,000) gtt. v. (Van Swieten). Four times a day in milk.

In a bottle-fed baby Gibert's syrup (see page 749). One-quarter of a teaspoonful dissolved in water and given in fractional doses distributed over twenty-four hours.—SIMON.

In dry and scaly eruptions :

℞ Calomel 1
 Amylum 2
 Borated vaseline 25
 For friction of the surface.

In ulcerations about the anus :

℞ Ungt. hydrargyri,
 Ceræ albæ 25
 Ext. belladon. 0.02
 Ol. theobrom. 5.

—MAURIAC.

Van Swieten's liquid :

℞ Hydrargyri bichloridi gr. ij.
 Spir. vini rectificati. 3 ij.
 Aquæ destillatæ... q.s. ad 3 iv.
 M. S. Twenty drops for a child of six weeks, four times daily.

Caution.—Omit if persistent diarrhœa sets in.

Inunction of one-half to two grams of mercurial ointment.

In infancy, treat the nursing mother or wetnurse if herself luetic. Inunctions and coincidently in most instances potassium iodide internally for the infant's benefit.

Baths :

℞ Hydrarg. bichlor. corros 8
 Alcohol. 20
 Ft. sol. S. To be added to a bath.

Or—

℞ Hydrarg. bichlor. corros.....	4
Ammon. mur	6
Aquæ.....	2,500
M. ft. solutio. S. For a bath of ten minutes' duration (every second day).	

Caution.—When the slightest intestinal irritation is observed, the baths are to be omitted.

Local Applications.—For ulcerations, phagedenic water:

℞ Hydrargyri bichloridi.....	0.25
Aquæ destillatæ	100

Emplast. hydrarg. extens., calomel dustings, silver stick.

For condylomata :

℞ Acidi tannici,	
Hydrargyri chloridi mitis,	
Amyli.....	p.æ.

M. et fiat pulvis. S. To be dusted on the affected parts.

℞ Calomel.....	30 parts.
Boric acid	18 "
Salicylic acid	5 "

S. Apply three times a day.

For mucous patches :

℞ Acidi chromici.....	5
Aquæ destillatæ.....	100

M. S. Apply daily.

For throat :

℞ Potassii permanganatis.....	1
Aquæ destillatæ.....	1,000

M. S. Gargle.

℞ Methylene blue.....	5
Water	100

M. S. Apply on a swab.

Intramuscular medication (insoluble salts):

℞ Calomel.....	1
Olei olivæ purif. steril	10

Inject gtt. x. (gr. iss.) slowly into the muscles of the buttock or lumbar region every fifteen to twenty days.

—NEISSER.

Caution.—Death has resulted from an accumulative effect. An existing nephritis is a contraindication.

℞ Hydrargyri oxidi flavi..... 1 gm.
Gummi Arabici..... 0.25 cgm.
Aquæ dest. steril 30 gm.

Dose 0.05–0.10 cgm. of the drug once a week for the first month, then once a month for two years.

—DE WATRAZEWSKI.

Gray oil :

℞ Hydrargyri (metallic purified),
Lanolini 5 gm.
Olei olivæ..... 4 gm.

S. 0.10–0.15 cgm. every five to seven days in two places.

—LANG.

℞ Hydrargyri salicylici..... 0.20
Mucil. gum. Arabic..... 0.30
Aquæ destillatæ... 60

—SZADEK.

℞ Hydrarg. thymolat..... 1 part.
Liq. paraffini..... 10 parts.

Inject 0.05–0.10 cgm. each week.

—WELANDER.

Caution.—Whatever method is selected, do not administer too much. Injections with full doses do more harm than good.
—LANG.

℞ Calomel (à la vapeur)..... 0.05 cgm.
Olei olivæ steril..... 1 c.c.

Inject at any point along the external iliac fossa three or four centimetres from the crest, or deposit in muscular tissue of infrascapular region. Employ early to cut short the disease; later in inveterate forms; and lastly in threatening brain, larynx, and eye lesions.

℞ Hydrarg. benzoat. (neut.)..... 0.25
Sodii chloridi 0.06
Cocainæ hydrochl..... 0.06
Aquæ destillatæ steril..... 30

Inject one gram each day a little above the great trochanter.

—GALLOIS.

Hydrargyri succinimid., 0.01. Inject this amount (gr. $\frac{1}{6}$) once daily.—WOLFF.

Gray oil is preferable :

R̄ Hydrarg. (pure)	20
Lanolin.....	5
Liq. vaseline.....	35

Never use calomel.—GAUCHER.

Or hydrargyri salicylas, gr. i.—gr. i½, suspended in sterilized oil or vaseline, and injected within the muscle every third, fifth, and seventh days for the first injections.—CHISTIAKOV.

Or hydrargyri salicylas, 0.05 cgm., in liquid vaseline twice a week until sixteen to twenty injections are taken. Repeat at intervals of four months.—ANTHONY.

Soluble salts :

R̄ Hydrargyri chloridi corrosivi.....	gr. vi.
Sodii chloridi	gr. xxxvi.
Aquæ destillatæ	3 x.

M. S. Inject daily from five to eight drops.

—HEBRA.

R̄ Hydrargyri chloridi corrosivi.....	0.60
Sodii chloridi.....	0.60
Aquæ destillatæ steril.....	100

Filter and inject thirty minims.

R̄ Hydrargyri benzoatis.....	0.25
Sodii chloridi	0.06
Aquæ destillatæ	30

Inject 0.01 cgm. (℥ xv.) each day.

R̄ Hydrargyri bichloridi	2
Sodii chloridi	2
Aquæ destillatæ steril.....	100

M. S. Inj. ℥ xii.—xv. twice a week.

R̄ Hydrargyri bichloridi,	
Ammonii chloridi.....	āā ʒi.
Sodii chloridi.....	gr. lxij.
Aquæ destillatæ	gr. xx.

Mix and filter. Add white of one egg dissolved in distilled water, ʒ ivss.

S. Inject ℥ xx.

R̄ Hydrarg. benzoat.....	0.30
Sodii chloridi	0.10
Cocainæ.....	0.15
Aquæ destill.....	40

M. Dissolve with heat. S. Inject 1 c.c. each day. This must be made fresh at least every fifteen days.

—STOUKOWENKOF.

Caution.—Since nephritis may be occasioned by full doses of mercury, the urine should be systematically examined, and if albumin is found mercury should continue to be used with extreme caution.

In making injections be sure the needle is aseptic. It should be long, strong, and of large calibre. The syringe should have no metallic fittings. The buttock is a favorite site, though the intrascapular region may be chosen. The region should be cleansed with alcohol and ether, or with a two-per-cent. lysol solution.

Intravenous Injections.—Valuable, but not as a routine method. Painless, safe (under precautions); but not always easy to bring vein into prominence.—ERNEST LANE.

Process as in preparing for phlebotomy. Inject from 1 c.c. up to 10 c.c. of a 1:1,000 bichloride and salt solution.

Serum Treatment.—The difference between the treatment by serum and that by mercury consists chiefly in that the serum acts more promptly and occasions none of the destructive effects occasionally seen in the latter if employed in large doses for a long time.—VIEVIOROVSKI.

Syringomyelia.

This name was given in 1837 by Ollivier to an affection in which, as the term implies, a cavity exists in the spinal cord. Morvan's symptom complex, described as analgesic panaris or painless whitlow, is one of its forms.

If the clinical symptoms are well marked, the pathologic changes to be found in a given case can be predicted.

DIAGNOSIS.—The development, usually in adolescence, is insidious. There is gradual loss of sensitiveness to pain and to changes of temperature, also progressive muscular atrophy, at times some loss of tactile sense, and fibrillary twitchings. Trophic changes are common, especially affecting the skin, nails, and fingers. Bullous eruptions are frequent, and ulcera-

tion or gangrene may be observed. Vasomotor changes include lividity, coldness, sweating, or redness of the surface.

DIFFERENTIATION.—From anæsthetic lepra by the more regular development in the latter of the anæsthesia, atrophies, trophic and vasomotor disturbances; the face and then the trunk and extremities becoming involved. The deformities from ulcerative processes affecting the fingers and toes are more pronounced in lepra, and the muscular atrophy is less extensive, involving the smaller muscles of the hands and feet, while in syringomyelia the atrophic changes begin in those parts of the extremities nearest the trunk.

In lepra there is more constant loss of tactile sensibility; trophic changes are greater.

From pemphigus the bullous eruptions are distinguished by their occupying chiefly the hands and feet, and by the concomitant graver symptoms.

Cervical pachymeningitis has greater pain and more rapid course.

In injuries of the cervical region simulating syringomyelia (Lloyd) the history will aid.

Fibrillary twitchings are observed, but true tremors, as in hysteria and paralysis agitans, do not occur.

PROGNOSIS.—Death, though sometimes long deferred, and due perhaps to some intercurrent disease, is the inevitable outcome.

TREATMENT.—Little hope can be held out, and still the patient should be encouraged and kept hopeful. All symptomatic measures of relief may be tried. Rest, water cure, and massage treatment may all be beneficial.

Tachycardia, Paroxysmal.

Tachycardia is the term which has been applied to different varieties of rapid heart action. By essential tachycardia is understood a now well-recognized condition characterized by the

occurrence through many years, at longer or shorter intervals, of attacks of palpitation, which come on suddenly with little or no premonition and, after continuing with a pulse rate varying from 180 to 280 or even 300 beats to the minute, will stop quite as abruptly as they begin, the pulse falling to its normal rate. These attacks may occur in individuals otherwise healthy.

DIAGNOSIS.—During the attack there is usually at first pallor and, possibly later on, cyanosis. There may also be marked prostration, difficulty of breathing, and a sense of oppression in the chest, and pains radiating to the shoulder and down the upper limbs, simulating those of angina pectoris. It has been observed in all ages from childhood to advanced years, and the attacks may extend over a period of fifty years without producing any serious disturbances in the patient's general health. While probably in the majority of instances no valvular, muscular, or pericardial lesion can be definitely made out, certain instances are associated with organic changes and particularly those which follow the occurrence of rheumatic disease in early life. The attack itself may vary from a few minutes to a matter of hours, days, or weeks, and the patient may be able to go about his usual occupations with the heart beating at such a rapid rate as scarcely to be counted.

DIFFERENTIATION.—We must distinguish essential tachycardia, in which there may be a lesion of the myocardium not recognizable during life or some concomitant heart lesion which can be readily detected, from the various symptomatic forms of tachycardia such as occur in infective diseases in association with high temperature; from the symptomatic palpitations due to heart disease, to irritable heart, to chronic myocarditis, or to arterio-sclerosis; and from the palpitation which may be the first evidence of a degeneration of the myocardium. We must recognize for essential tachycardia a multiple etiology, since the instances recorded show a wide diversity in supposed exciting causes. The attacks are also not to be

confounded with the reflex tachycardia of flatulent fermentation or with the nervous palpitations attending Graves' disease, hysteria, epilepsy, and neurasthenia.

Palpitation.

Sudden onset.

Duration, a few minutes to hours or days.

Pulse, 120 to 150.

Pulse, strong and full.

Throb of pulse plain to the eye.

Face flushed.

Respirations increased.

Dyspnoea.

Subjective symptoms, beating and throbbing.

Voice quite strong.

Tachycardia.

Usually sudden onset. May be warned by vertigo, faintness, or oppression.

Duration, a few minutes to hours or days.

Pulse, 150 to 300.

Pulse, small, weak, compressible, and often irregular.

Throb of pulse not plain to the eye.

Face at first pallid; later flushed or even florid.

Respirations more markedly increased, though not in the same ratio as the pulse.

Usually dyspnoea.

Subjective symptoms, roaring in ears, vertigo, tendency to syncope.

Voice weak.

—WILLIAM B. SMALL.⁴²

PROGNOSIS in the majority of instances is good, although patients have died in the attack. In a case of fifteen years' duration, mentioned by Hampeln, after an unusually severe attack there was complete freedom from subsequent paroxysms.

TREATMENT.—A simple measure which may arrest a "heart storm" in one instance will have absolutely no effect in another. Some patients can control the action by drinking a glass of water. I have repeatedly seen attacks cut short by the patient leaning over the side of the bed in such a way that the face and head would become much congested by the afflux of blood. The return to the normal beat was in these instances always attended with considerable pain in the heart region and a sensation as if the organ "had turned over in the chest," as the patient expressed it. Among the many measures recommended are vesicating plasters over the course of the vagus, compression of the carotid, the actual cautery to the back of the neck, spraying with chloride of methyl or ethyl, etc. I

have seen an attack cease under the application of the ice-water coil for a few minutes to the heart region. A hypodermic of morphine promptly given may act to cut short a paroxysm, and this is probably the best thing to do in the majority of instances. Digitalis, if given at all, should be administered either by the rectum or beneath the skin. Compression of the thorax and abdomen at the time of the attack has been recommended. During the intervals the mode of life should be regulated and exciting substances as well as exciting surroundings should be forbidden. Tea, coffee, and excess of alcohol are not to be allowed. Among the useful drugs at this time are small doses of morphine continued through a period of weeks; arsenic, bromide of ammonium, and digitalin, given also for a lengthy period.

When there is arterial hypotension:

℞ Quininæ sulphatis,

Extr. aquos. secalis cornut.....āā 4

Extr. nucis vomicæ..... 10

M. ft. pilulas No. xl. S. Two pills twice or three times a day for a period of two weeks or a month.

—HUCHARD.

When there is much general nervous excitement:

℞ Zinci valerianatis..... 8

Extr. gentianæ..... 6

M. ft. pil. No. xl. S. One three times a day.

Where there is cardiac insufficiency with threatening asystole, complete rest and:

℞ Digitalin..... gr. i.

Ft. granula numero lxx. S. Two or four during twenty-four hours.

—HOMOLLE.

For hypodermic injection:

℞ Digitalin..... 1

Alcohol,

Aquæ destillatæ.....āā 250

M. S. ℥ viij.

In severe forms with threatening syncope, intravenous injections of artificial serum to relieve the arterial tension, 1,000 c.c. or more.—CHAUFFARD.

Among other measures recommended are: *Zinci valerianas*, 0.20 cgm. for beginning dose; amyl nitrite to inhale; atropine in large dose; belladonna in large dose (Olivier); resistance exercises and saline baths; tinct. *strophanthus*, ℥ vii.-x.

Have patient hold the breath in the attack, deep inspiration. Make pressure over sternum, etc.—COLLIER.

Though *digitalis* has but a limited action in controlling or abating the actual attacks, it is the most useful drug for improving the circulation in the intervals. Strong doses of spirits; pressure on the vagi in the neck; compression of thorax. Avoid excitants.—P. WATSON WILLIAMS.

Tænia Solium.

This worm attacks mostly women, the report of the surgeons of the French army for ten years showing only one case in every thirty-six thousand men.

DIAGNOSIS is to be made only by the discovery in the passages of segments of the *tænia* or their eggs. There is usually loss of flesh despite abnormal appetite. Salivation may occur. Disordered digestion, colicky cramps, irritation about the mouth, nose, and anus, especially when associated with headache, mental depression, and anæmia.

DIFFERENTIATION.—When such disturbances as convulsions and epileptic seizures or fainting fits occur, the diagnosis is to be made from cerebro-spinal affections.

TREATMENT.—For three days the patient is kept upon a milk diet. After a cup of hot black coffee:

- ℞ Extr. æther. *filicis maris* (freshly prepared) 12-15 gm.
 Aquæ destillatæ,
 Syr. aurant. *florum* āā 15-20 “
 S. The whole to be taken in two doses with a half-hour interval.

If after two or three hours no passage has occurred, give a tablespoonful of castor oil.—LOEB.

℞ Oleoresin of malefern..... 3 ij.
Calomel..... gr. v.

M. This is to be divided into sixteen capsules. Early in the morning one of these capsules is to be taken every five minutes with a tablespoonful of sweetened water.

—CREQUY.

Low diet for one day; on morning of second, in three doses at intervals of fifteen minutes:

℞ Honey 3 v.
Ethereal ext. pomegranate,
Eth. ext. malefern.....āā gr. viiss.
Kousso flowers 3 v.

M. S. Divide into three parts.

—DROUKE.

℞ Spir. chloroformi 3 ij.
Olei terebinthinæ,
Oleoresin. aspidii.....āā 3 i.
Glycerini.....q.s. ad 3 i.

M. S. 3 ii. every hour until the whole is taken, preceded by fasting and salts on the preceding day and castor oil the same morning.

To discover the head several pieces of cheesecloth are made ready and stretched over the receptacle for each evacuation, being subsequently spread out on newspapers for careful examination.—E. C. CHAMBERLIN.

℞ Potass. hydriodat gr. xxxvi.
Iodi gr. xij.
Aquæ 3 i.

M. S. Gtt. x. t.i.d. in water.

—J. H. NEWINGTON.

No midday or evening meal. At bedtime thirty grams of castor oil. The following morning a second dose of fifteen grams of castor oil. An hour later one gram of salicylic acid, repeated every hour for four doses. If no worm is expelled a third dose of castor oil.—OZEGOVSKI.

Chloroform greatly increases the efficacy of malefern. Fifty drops may be given.—DUHOMEAU.

℞ Pelletierinæ tannatis..... gr. x.
 Spiritus rectificati..... ℥ i.
 Glycerini..... 3 ij.
 Tincturæ aurantii..... 3 i.
 Aquæ..... q.s. ad ℥ iiij.

Misce et fiat haustus. Half to be given fasting early in the morning, to be repeated in half an hour, and to be followed by a dose of castor oil.

℞ Olei terebinthinæ,
 Oleoresinæ filicis maris..... āā 3 vi.
 Mucilag. acaciæ..... ℥ ij.

M. ft. emulsio. S. Day before treatment, a milk or thin-soup diet, and one drachm of compound jalap powder. The emulsion is taken the following morning, fasting, and a half-hour later a dose of castor oil.

—F. A. A. SMITH.

For a child of from three to five years, pelletierine tannate gr. ii.—iii.

Pelletierine, the alkaloid of pomegranate, is one of the best tæniacides. Eight to twenty grams can be given to an adult, followed in two hours by a dose of castor oil.

Cocoanut; turpentine; kousso.

℞ Benzonaphthol..... 2 gm. (80.9 gr.)
 Santonica..... 1 “ (15.4 “)
 Sugar..... 5 “ (77.2 “)

Divide into twenty powders and give from two to five throughout each day. After the dislodgement and discharge of the worm, continue the benzonaphthol, either alone or with magnesia, for about four weeks.

—FERRAN.

℞ Pomegranate-root bark..... 3 iv.
 Pumpkin seed..... 3 ss.
 Powdered ergot.. .. 3 ss.
 Boil together in eight ounces of water for fifteen minutes and strain.

Rub two minims of croton oil with two drachms of powdered gum arabic; then add one drachm of malefern and make an emulsion with the foregoing decoction. The whole at one dose. The worm will be expelled in about two hours.—WATSON.

For children :

℞ Ext. æth. filicis maris..... 3 iss.
 Spir. terebinth..... ℥ xxv.
 Syr. aurantii florum..... ℥ i.
 Aquæ menthæ piperitæ..... ℥ ij.
 After shaking to be given at one dose.

Or, better, since the quantity of malefern in the above might be unsafe for a child's dose:

℞ Ext. æth. filicis maris.	℥ xxx.
Olei ricini	℥ ss.
Syr. menth.	℥ vi.

However, a half-drachm dose may be given every hour for two or three doses, since large quantities do not tend to remain in the intestine to be absorbed and cause poisoning, as small ones do.—OGILVIE.

If bowels do not move promptly castor-oil or other purgative can be given, and full evacuation must be secured before any anthelmintic course.

℞ Oleoresini aspidii	℥ ij.
Glycerini	℥ ss.
Pulveris acaciæ.....	q.s.
Olei gaultheriæ.....	℥ x.
Aquæ.....	q.s. ad ℥ ij.
M. S. Two drachms.	

℞ Naphthalin	gr. v.
Castor oil	℥ ss.
Oil of bergamot	℥ ij.
To be taken as one dose after fasting.	

Sour, highly seasoned, and salty food to be taken a few days before treatment. Sour krout.

Inject the segment which may protrude from the rectum with morphine. This benumbs if it does not kill the worm, and the head may come away.

Tænia inermis :

℞ Pelletierin. sulphat.....	0.40-0.50
Tannin.....	1.20-1.50
Aquæ	100
M. S. To be taken in two or three doses.	

—SCHEFFER.

Tetanus.

This febrile spasmodic affection of the muscles, sometimes called lockjaw, because the spasmodic contractions which characterize it often first show themselves in the muscles of the jaw, presents continual recurrent spasms called forth by the slightest irritation. Its frequent occurrence in certain geographical regions, especially of the tropics, and in the wounded of certain battlefields, is to be accounted for by the greater prevalence of the specific club-shaped bacillus in the soil of these regions, although, as Welch has shown, it is one of the most widely distributed of pathogenic micro-organisms.

It has also been qualified as *hydrophobicus*, because of pharyngeal spasm on swallowing; *paralyticus*, because of facial paralysis; and *bulbar*, because of bulbar symptoms often present.

DIAGNOSIS.—After an incubation of from four to fifteen days a chill may occur, followed by difficulty in moving the muscles of the jaws and throat and later by general spasms. As Tyson has pointed out, the stiffness may begin in the abdominal muscles and simulate cramps. Attending the marked muscular contractions, which may involve all portions of the body, producing stiffness and rigidity (trismus, opisthotonos), there is considerable pain. During and after these paroxysms, drops of perspiration may stand out upon the whole surface of the skin. The temperature is usually not high.

DIFFERENTIATION.—Certain hysterical attacks may simulate the condition, but rabies and poisoning by strychnine are the conditions most likely to come into question. Trismus is absent in hydrophobia, and the separate paroxysms have a more definite character. In strychnine poisoning there is no rigidity of muscles between the spasmodic seizures, and the muscles of the jaw are the last to become affected.

In rigidity of cerebro-spinal meningitis we have the cerebral

symptoms to aid us. Tetany is more similar to tetanus in name than it is in nature; the contractions are intermittent and fever is absent. If the clinical symptoms and the history of preceding wound complete the picture, failure to demonstrate the specific bacillus should not exclude the disease.

The following table may serve to differentiate between :

Tetanus.	Hysterical tetanus. (Case.)	Strychnine poisoning.
	Commenced with blindness and weakness.	Begins with exhilaration and restlessness, the special senses being usually much sharpened. Dimness of vision may in some cases be manifested later, after the development of other symptoms; but even then it is rare.
Muscular symptoms usually commence with pain and stiffness of the back of the neck, sometimes with slight muscular twitchings; come on gradually.	Muscular symptoms commenced with rigidity of the neck, which gradually "crept over the body," affecting the extremities last.	Muscular symptoms develop very rapidly, commencing in the extremities, or the convulsion, when the dose is large, seizes the whole body simultaneously.
Jaw one of the earliest parts affected; rigidly and persistently set.	Jaw rigidly set before a convulsion, and remained so between the paroxysms.	Jaw the last part of the body to be affected; its muscles relax first, and, even when during a second convulsion it is set, it drops as soon as the latter ceases.
Persistent muscular rigidity, very generally with a greater or less degree of permanent opisthotonos, emprosthotonos, pleurosthotonos, or orthotonos.	Persistent opisthotonos and intense rigidity between the convulsions; and after the convulsions had ceased the opisthotonos and intense rigidity lasted for hours.	Muscular relaxation (rarely a slight rigidity) between the convulsions, the patient being exhausted and sweating. If recovery occur, the convulsions gradually cease, leaving merely muscular soreness, and sometimes stiffness like that felt after violent exercise.
Consciousness preserved until near death, as in strychnine poisoning.	Consciousness lost as the second convulsion came on, and lost with every other convulsion, the disturbance of consciousness and motility being simultaneous.	Consciousness always preserved during convulsions, except when the latter become so intense that death is imminent from suffocation, in which case sometimes the patient becomes insensible from asphyxia; which comes on during the latter part of a convulsion and is almost a certain precursor of death.
Draughts, loud noises, etc., produce convulsions, as in strychnine poisoning.	Desired to be fanned.....	The slightest "breath of air" produces a convulsion.
May complain bitterly of pain.	Crying spells in which he "sobbed violently" and "cried like a child," alternated with convulsions.	Patient may scream with pain, or may express great apprehension, but "crying spells" would appear to be impossible.
Eyes open, rigidly fixed, during the convulsion.	Eyes closed.....	Eyes stretched wide open.
	The spasms in leg must have been partial, as the feet were crossed and toes inverted, which could not happen if all the muscles were involved, because the muscles of eversion, being very much stronger, would of necessity overcome the antagonistic muscles and the feet be everted.	Legs stiffly extended, with feet everted, as the spasms affect all the muscles of the leg.

Hydrophobia and tetanus resemble each other to a slight extent.—THOS. C. CRAIG.⁸⁰

PROGNOSIS.—There is a marked difference in the severity of attacks, some cases recovering spontaneously even after an especially severe course. Severe cases may terminate fatally within two or three days, though a course of eight to twelve days is usual. Antitoxin has reduced mortality about fifty per cent. In instances in which the incubation has been less than ten days the mortality is ninety-five per cent under ordinary methods. In a collection of seven hundred and seventeen cases of all kinds eighty per cent died.—RICHTER.

Of cases treated with Tizzoni's antitoxin 25.8 per cent died.—KANTHACK.

In forty-four cases treated with antitoxin the mortality was sixteen per cent.—JACKSON.

TREATMENT.—Antitetanic serum: 20 c.c. on the second day, 40 c.c. on the third, 30 c.c. on the fourth, and 10 c.c. on the fifth brought about uninterrupted recovery, in a boy injured by a toy pistol.—E. B. ADAMS.

Locally antiseptics. After other remedies had failed in a boy of nine years, hydrargyri bichloridum, gr. $\frac{1}{10}$, was injected twice daily into the buttock with rapidly favorable results. Chloral was also used.—HENDLEY.⁵⁰

Tetanus antitoxin (Behring) injected hypodermatically, 30, 40, or 50 c.c., the total amount for a given case not exceeding 200 c.c. The antitoxic serum of P. D. & Co. is put up in ounce bottles, one-third of which is to be injected at a time in an average case and repeated until the whole quantity is used.

The tetanus antitoxin is prepared in the same manner as the diphtheria antitoxin, by inoculating the tetanus toxins in increasing doses into horses. The serum is supplied in 20 c.c. bottles and should be injected in 10 to 20 c.c. doses. In severe cases, 50 cm. should be injected in the first twenty-four or thirty-six hours.—LAMBERT.⁴⁴

Begin treatment at earliest possible moment, and repeat daily until symptoms abate.

℞ Chloralis..... $\frac{3}{4}$ ss.
 Syr. aurantii corticis..... $\frac{3}{4}$ iss.
 Aquæ..... $\frac{3}{4}$ iij.
 M. S. Dessertspoonful as required.

—BARTHOLOW.

℞ Pulv. opii..... 3 i.
 Pulv. camphoræ..... gr. xv.
 Adipis prep..... $\frac{3}{4}$ ss.
 M. S. Rub the parts affected by the spasm.

—THOMAS.

℞ Cocainæ muriat.,
 Morphinæ muriat..... $\frac{1}{2}$ gr. xij.
 Aquæ destillatæ..... $\frac{3}{4}$ i.
 M. S. Twenty to sixty minims hypodermically, as required.

—LOPEZ.

In children two or three years of age:

℞ Bismuth. salicylat..... 80 cgm.
 Benzonaphthol..... 15 "
 Sugar. q.s.
 M. For one powder. Give four such each day.

℞ Potassii bromidi..... 8 gm.
 Chloralis..... 1 "
 Aquæ destillatæ..... 100 "
 Syr. aurantii corticis..... 50 "
 M. S. Give three tablespoonfuls a day.

—JORDENS.

In traumatic tetanus there is a decided tolerance for chloral, morphine, and carbolic acid; consequently these remedies can be employed rather freely.

℞ Acidi carbolici..... 2
 Aquæ destillatæ..... 100
 M. S. Inject a Pravaz syringe-ful every two hours and give a hot bath at 40° C., prolonged for three hours.

—CERVellini.

In a boy of ten years:

℞ Chloral..... gr. viij.
 S. Every hour.

And—

R Extr. physostigmatis fld. (freshly prepared)..... gtt. iv.

S. Every two hours. Recovery in five weeks.

—RADCLIFFE.

In a two-year-old child with trismus, chloralamid, gr. v. per rectum every three hours.—PROEGLER.

In a boy of seventeen years :

R Dry antitoxin (Höchst)..... 5 gm.

Sterilized water (below 40° C.)..... 45 c.c.

Inject.

—HÖFLING.

Urethan (ethyl carbamate), gr. x.-lx., has been found by some more useful than chloral.

When other means fail, cold baths.—RIVIÈRE.

Tetany.

Prodromata may exist for months or for a few days only, consisting of pains, pricking sensations, formication in the extremities and sudden attacks of deafness or amblyopia, with fibrillary contraction in the parts often before the actual attack.

DIAGNOSIS.—The contractures implicate the upper extremities for the most part, the hand being drawn into the form which has been described as that of the obstetrician's hand when about to be introduced into the vagina; or the contracture may be much like that of hemiplegia with flexion driving the nails into the palm. If the foot is affected it may be extended into the equinus position. In severe forms the trunk may be involved. Opisthotonos or other abnormally stiff positions may be assumed. When general, the muscles of the face, neck, jaw, etc., may be implicated.

There is absence of fever and the attacks are intermittent in character.

Increased galvanic irritability is a most constant and important symptom of tetany.—ERB.

1. The tetanic contractures of the extremities are rare in the tetany of children, and are not essential symptoms.

2. Spasm of the glottis, however, is almost a pathognomonic symptom. There is no proof that a laryngeal spasm exists without other symptoms of tetany.

3. Tetany stands in no causal relation whatever to rickets.—**LOOS.**

A facial symptom of tetany is the production of a spasm of the upper eyelid and ala nasi by pressing on or tapping the skin over the zygomatic arch.—**CHVOSTEK.**

DIFFERENTIATION.—Spasm in the arms may be induced by making nerve pressure.—**TROUSSEAU.**

From contractures accompanying severe fevers and diseases of the cerebro-spinal system by the above-mentioned signs.

In meningitis tetanic spasms of hands and feet are usually absent; vomiting is more persistent; there is constipation (in tetany diarrhoea) and there are eye symptoms.

Epidemic ergotism may present a close analogy to tetany, but the contractures are less pronounced.

Further differentiation is to be made from tetanoid hysteria or from pseudo-tetany.

PROGNOSIS.—Recovery is to be expected. In young children tetany may cause death. That of pregnancy disappears after confinement.

TREATMENT.—If the cause can be found and removed, nothing more is required. Thus cure has followed the extraction of the canine teeth, the expulsion of intestinal worms, regulation of uterine or alimentary disorders, etc.

Maestro reports favorable results in children from the administration of thyroid gland, under which the intensity and frequency of the attacks diminished and the whole course of the affection was shortened. The dose of the raw or slightly cooked gland can be increased up to thirty grains a day.

When associated with rachitis, phosphorus internally and

tepid baths, cold affusions, and continuous electrical currents locally have been successfully employed.

Internally, bromides, chloral, belladonna, and, in severe attacks, inhalations of chloroform.

In pseudo-tetany, suggestion and faradization.—BLAZICEK.

Hydrargyri chloridum mite, gr. $\frac{1}{4}$, to be repeated p.r.n.; also lavage.

Caution.—Wash out stomach with care for fear of exciting laryngeal spasm.—ODDO.

Irrigation of the stomach and bowels, the administration of purgatives for the removal of the toxins and to avoid their new formation, and the restriction of the diet to amylaceous food.—HAUSER.

Thomsen's Disease.

In the "family disease," known also under the somewhat faulty name of myotonia congenita, the attempt to execute voluntary movements is attended with cramps of tonic nature or rigidity in the muscles which are called into activity.

DIAGNOSIS.—The affection, occurring as an occasional paralysis, is hereditary and rarely begins after puberty, though often at about this period. The limbs affected can be used only after the muscular rigidity has gradually worn away. Thus, in starting to walk the leg may remain stiff for a moment, after which walking is not interfered with. If, however, the patient stops, the same process is gone through with, or, if he falls, he must be assisted to his feet.

Erb's myotonic reaction shows wave-like contractions with the constant current.

DIFFERENTIATION.—From the professional neuroses, localized spasms, spasmodic tabes, and pseudo-hypertrophic paralysis, an early sign of which may be an apparent enlargement and firmness of the muscles of the upper extremity and a prominence of those of facial expression.

Paramoytonia (Eulenburg) shows more or less lasting paralyzes. Here the myotonic reaction is absent.

PROGNOSIS.—While practically incurable, the general condition is little or not at all affected. Some subjects show hypochondriasis. There is often marked variation in the course.

Thyroiditis.

Inflammation of the thyroid may be idiopathic but more commonly it occurs in the course of infectious disease, especially if the gland is already the seat of goitre.

DIAGNOSIS.—The swelling in the region of the thyroid may be quite painful and attended with chill and elevation of temperature. The history of preceding goitrous enlargement with sudden acute swelling superadded will lead to the diagnosis of *strumitis*.

PROGNOSIS.—In the course of a few weeks, and in favorable instances it may be a few days, resolution begins or abscess develops, rupturing externally or perhaps into the trachea.

TREATMENT.—Cold applications, leeching, the treatment of the primary infection, and intestinal antiseptics.

Tongue, Diseases of the.

The great importance of the tongue in diagnosis is frequently overlooked, or at least the most is not made of what this organ is capable of teaching.

In considering the differentiation between the numerous lingual affections proper, we will therefore attempt to indicate their diagnostic bearing upon general processes, whenever possible.

The various forms of glossitis, ulceration, and eruptive lesions are to be differentiated from each other, and especially from the results of lues, which so commonly affect the tongue.

DIAGNOSIS is usually not difficult if attention is paid to the minutiae.

Macroglossia or enlargement of the tongue, if congenital, is most likely lymphangiomatous, and is readily distinguished from the large tongue of myxœdema, which is broad, flat, and square; from that of acromegaly and enlargement in idiots; from the acute swelling in urticaria; from abscess following glossitis.

Atrophy or diminution in the organ's size may be general, as in bilateral paralysis and after syphilitic sclerosing glossitis; or one-sided, as after injury to or in rheumatism affecting the hypoglossus; in disease of the medulla, in locomotor ataxia, or in syringomyelia.

Functional disturbances include paralyses affecting one or both sides, with speech disturbances; anæsthesia, either sensory or gustatory; spasms, either tonic, clonic, fibrillary, general, or unilateral. There may be rhythmic protrusions, as an idiopathic spasmodic affection, as well as those occurring in habit chorea. I have seen severe unilateral neuralgia of paroxysmal nature.

Inflammations may be due to accident, as from taking ammonia, inhaling steam, hot water, stings of insects, erysipelas, phlegmon, abscess, etc.

Acute glossitis is rare as an idiopathic condition. Most instances of acute painful swelling are attributable to erysipelas or injury, unless an abscess is developing in the parenchyma, when fluctuation may be detected or the exploring needle may be used. Abscess may result from the glossitis. If tonsillitis is present, the inflammation may have extended to the base of the tongue.

Chronic superficial glossitis, also rare, occurs mostly in women. Painful, red, furless spots are aggravated by eating and speaking. This glossodynia exfoliata is to be distinguished from the benign exfoliatio areata linguæ, which rarely if ever is tender and is never spontaneously painful.

Ulceration.—The tuberculous ulcer is distinguished by its lateral situation near or upon the tip. Small granulations are often first noticed, and these take on a dark hue, become yellow in the centre, and break down.

Luetic ulcer varies according as it forms part of the infecting sore, which usually ulcerates; as it develops upon a preceding gummous infiltration; or in connection with a fissure. The mucous patch may ulcerate as a result of irritation from an imperfect tooth, and the succeeding lesion must not be confounded with the solitary simple ulcer resulting from digestive disorders, which is more inflammatory. Secondary ulcers may occur in epithelioma, lupus, abscess, and herpes.

Tumors of the tongue include angioma, of which I have seen a number of instances; fibroma, which is more common; adenoma, including hypertrophy of adenoid tissue at the base; papilloma or warty growths, which might be mistaken for beginning epithelioma.

Carcinoma is the most important of the new growths. The border and anterior portion of the tongue are the parts mostly affected. There is at first a hard nodule or a fissure with indurated base and border. Possibly a lesion of benign appearance has preceded it for some time, or a leucoma of many years' duration without previous subjective symptoms may suddenly take on malignancy.

Deep-seated nodules are to be distinguished from gummata, which are softer and break down sooner; from intramuscular tuberculous nodule; and from foreign body, such as, for instance, a tooth, a number of instances having been reported of teeth being found embedded in the substance of the organ.

Dermatoses of the tongue include a large number of affections occurring coincidently with cutaneous outbreaks or as independent eruptions.

Lichen planus gives a rounded plaque not much raised, somewhat suggesting a stuck on wafer, and usually associated

with similar plaques showing radiating lines upon the buccal membrane and perhaps upon the skin.

Lupus is usually secondary to the same affection in the throat or upon the face, and hence is readily recognized.

Lupus erythematosus, purpura, pemphigus, urticaria, and a long list of cutaneous affections are at times accompanied by tongue lesions of the same nature.

Exfoliatio areata or geographical tongue is found in association with almost every skin disease, in syphilitic subjects, and independently of all these affections. Its nature has never been understood, and it has wrongly been considered an evidence of hereditary syphilis. The plaques of redness surrounded by a yellowish margin constantly change their position, which has given to the affection the name of wandering rash. It is to be carefully differentiated from syphilitic plaques, which do not have the yellow border and do not change their location so constantly.

TREATMENT.—*In mucous plaques*, sclerosing glossitis, specific fissures, and ulcerations, one of the best applications is:

R̄ Acidi chromici.....	5-10
Aquæ destill.....	100

For leucoplakia:

R̄ Potassii iodidi.....	20
Aquæ destill.....	100
Paint on frequently.	

Or, potassium bichromate, five per cent; subsequently ten per cent.

In ulcerating glossitis of gastric origin I have seen excellent results from ichthyol internally and at the same time applied to the lesions in strong solution.

In relapsing sore tongue avoid walnuts, effervescing waters, sugar in combination with vegetable acids, and give arsenic.—
HUTCHINSON.

In indurated syphilitic lesions :

℞ Acidi chromici..... 10
 Aquæ destill..... 100
 Apply, and follow at once with solid stick of silver nitrate.

—BOECK.

As an antiseptic wash :

℞ Thymol gr. iv.
 Benzoic acid gr. xlv.
 Tincture of eucalyptus..... gr. ccxxv.
 Essence of peppermint gr. lx.
 Chloroform..... gr. xv.
 Alcohol..... ℥ iij.
 M. S. Twenty drops in a glass of water.

In eczema :

℞ Cocaine 0.05 cgm.
 Bals. Peru 1 gm.
 Acid boric 1 gm.
 Vaseline..... 40 gm.
 M. S. Apply with friction several times daily.

—BESNIER.

In aphtha :

℞ Sodii sulphit..... 3 i.
 Aquæ ℥ i.
 M. S. Apply.

In black tongue, scrape off the villousities and give alkaline wash.

In erysipelas, paint with ichthyol and water, equal parts, at frequent intervals.

In œdema, multiple fine punctures.

In lingual tonsil, the cold snare or galvano-cautery.

In malignant growth, wide excision.

Tonsillitis, Acute Follicular.

Croupous inflammation of the tonsils is ushered in with chilliness and fever accompanied by headache, pain in the bones, but especially in the limbs and back, and general malaise. It is only upon the next day, as a rule, that throat symptoms direct attention to the true cause. The younger the subject

the less easily recognized are the local symptoms, and one should never fail in the presence of high temperature, restlessness, and, perhaps, convulsive movements to investigate the throat.

DIAGNOSIS.—The tonsil presents a red and swollen appearance upon one or both sides, and in the openings of the follicular crypts disc-like beads or rounded spots of pearly or bluish-white color are found closely adherent to the surface. At first these vary in number from eight to fifteen; but subsequent extension may cause the entire surface of the tonsil to become covered.

DIFFERENTIATION.—At the outset the clinical differentiation from diphtheria is attended with difficulties, and when the latter disease is prevalent bacteriological investigation will often alone decide the question. The points of exudation already described differ from those seen in the early stages of diphtheria at the mouths of the crypts by being finer, less prominent, less yellowish in color, and less closely adherent. The bright redness of the mucous membrane beneath the exudation in tonsillitis helps oftentimes to distinguish the affection from diphtheria, in which the mucous membrane has a turgid or somewhat bluish appearance. Again, later on, when the membrane becomes more extended, that of tonsillitis retains its whitish hue, while in that of diphtheria there is more apt to be a yellowish-black discoloration from local necrosis added to the bloody discharge which takes place from the margins of the patch.

If you find that the patient cannot open the mouth, you may almost invariably exclude diphtheria and suspect one of the inflammatory non-diphtheritic forms of angina.—MASSEI.

PROGNOSIS.—While the general symptoms may be severe and the local pain render swallowing most difficult, a favorable prognosis for recovery within the course of a week may be given.

Quinsy or peritonsillar abscess results in a certain proportion of instances in subjects who seem to be predisposed to such a suppurative complication, and when injudicious methods of treatment have been instituted.

Symptoms resembling those of Ludwig's angina followed by death may even result from injurious manipulation of tonsils acutely inflamed.

TREATMENT.—In the prophylaxis Maxson thinks that mild antiseptic throat washes should be used, alone or in combination with benzoate of sodium, at times of epidemic prevalence, and especially in those who are subject to repeated attacks. To destroy colonies of germs in the follicles between the attacks he introduces a bead of fused nitrate of silver upon a bent wire down to the very bottom of each separate follicle.

Caution.—This treatment is not to be undertaken when the tonsils are acutely inflamed.

Treatment in the rheumatic form:

℞ Tinct. guaiaci ammoniat ʒ i.
 Mucil. acaciæ q.s. ad ʒ ii j.
 Ovi vitelli No. i.
 M. et ft. emulsio. S. Teaspoonful every two hours.

To abort or limit the attack:

℞ Tinct. aconiti radiceis ℥ ½–¾
 Every two or three hours.

Or—

℞ Guaiacol 10 parts.
 Menthol 1 part.
 Apply locally.

Abortive treatment, according to Ripault, to be successful, must be employed within the first thirty-six hours.

Salol shortens the attack, but sixty grains must be given within twenty-four hours.

℞ Salol ʒ i.
 Mucil. acaciæ ʒ i.
 M. S. Teaspoonful every three hours.

Irrigate the pharynx with water as hot as can be borne and repeat frequently. Nourishment should be pulpy rather than liquid, and always be given cold.

To prevent suppuration of quinsy scarify with a sharp-

pointed instrument, making several quick cuts from above downward. When suppuration has occurred on the fourth or fifth day, the soft palate projects upon the side affected and is of a dark red color; now an opening should be made along a line passing transversely through the base of the uvula three-fourths of an inch to the outer side of the anterior faucial pillar.

To prevent recurrences the crypts of the tonsils should be removed by tonsillotomy or the galvano-cautery.

Or, sol. acidi carbol. (two per cent), ℥ xx., injected into the peritonsillar tissue; repeat every second or third day until four or six injections have been given. Administer between the attacks.—KRAMER.

In quinsy :

℞ Tincturæ veratri viridis (Norwood)..... gtt. xxx.
Morphinæ sulphatis..... gr. iss.
Aquæ..... 3 vi.

M. S. Dose for an adult one drachm, to be repeated according to judgment in one hour; then every two or three hours, according to the effect of the morphine.

℞ Acidi tannici..... 3 i.
Glycerini,
Aquæ rosæāā 3 i.
Aquæ chloroformi..... 3 viij.

M. S. Tannin gargle.

—CLARENCE J. BLAKE.

℞ Tinct. aconiti rad..... ℥ xvi.
Tinct. ferri chloridi 3 i.
Sodii chloratis..... 3 i.
Glycerini 3 vi.
Aquæq.s. ad 3 ij.

M. S. A teaspoonful every hour.

To be swallowed slowly and left as long as possible in contact with the fauces.—A. H. SMITH.

Gargle in lacunar amygdalitis :

℞ Creosoti (beechwood)..... gtt. viij.
Tinct. myrrhæ,
Glyceriniāā 3 ij.
Aquæ 3 iv.

M. S. Use as gargle several times daily.

—LEVY.

A very excellent gargle, which never fails me, when used early in the case and often, is:

R Tinct guaiaci ammoniat.,

Tinct. cinchonæ compos \mathfrak{ss} \mathfrak{ss} .

Mellis despumat. \mathfrak{ss} iss.

Bene simul agita, et adde:

Potassii chloratis 3 iiss

Aquæ q.s. ad \mathfrak{ss} viij.

Fiat gargarysma. S. Use as a gargle every half-hour and swallow a tea spoonful once every four hours.

—SAMUEL O. L. POTTER.

R Sodii benzoatis. 3 i. to 3 iv.

Glycerini,

Elix. calisayæ \mathfrak{ss} \mathfrak{ss} i.

M. S. Teaspoonful every hour or two.

—STEVENS.

R Sodii chloratis,

Tinct. ferri chloridi \mathfrak{ss} 3 i.

Mellis despumat. 3 ij.

Aquæ font. q.s. ad \mathfrak{ss} ij.

M. S. Teaspoonful in water t.i.d.

—A. H. SMITH.

R Guaiacol,

Ol. amygdalæ amar \mathfrak{ss} p.aa.

M. Locally.

R Potassii bromidi. gr. lxxx.

Sodii salicylatis 3 i.

Tinct. opii deod. 3 i.

Cascara cordial (ext. casc., 3 i.; elix. arom., \mathfrak{ss} ij.) .. q.s. ad \mathfrak{ss} i.

M. S. Teaspoonful every four hours in water.

—E. FLETCHER INGALLS.

R Olei eucalypti \mathfrak{m} xv.

Spir. camphoræ 3 iss.

Tinct. guaiaci 3 iiiss.

Glycerini q.s. ad \mathfrak{ss} i.

M. Ten drops on sugar to dissolve in the mouth, every hour or two.

—MILES.

R Potassii chloratis gr. xvi.

Aquæ \mathfrak{ss} i.

M. S. 3 i. every two hours.

—GRASSET.

In chronic cases :

R Tinct. aconiti rad	3 m.
Tinct. belladonnæ	3 i.
Tinct. ferri chloridi	3 ij.
Tinct. iodi comp	3 iss.
Glycerini	q.s. ad ʒ i.
M. S. Apply with brush.	

For ordinary forms :

R Sodii salicylatis	gr. xv.
Sodii bicarbonatis	gr. xx.
Give every three hours.	

—F. W. FABRICIUS.

In follicular tonsillitis guaiacol locally; one or two applications cure within forty-eight hours.—RAYMOND.

If obstinate, sodium salicylate should not be overlooked, as some rheumatic element is possible.—GAILLARD.

Apply adrenaline locally.

Peritonsillitis.

If seen within twenty-four hours of the onset it can be aborted. The remedy thus efficacious consists of:

R Morph. sulph.	0.06
Tinct. veratr. virid.	4.0
Aquæ	126.0
M. S. Teaspoonful every hour for three hours; then once in three hours.	

—EMIL MAYER.

Torticollis.

Acute spasmodic wryneck usually develops suddenly, perhaps after some rapid motions of the part have been made. The pain may be severe in the cervical region or may implicate the whole trapezius area. There are clonic contractions and slight fever with general malaise, and insomnia may be present. The contracture decreases and the pain subsides usually after a few days, permitting the head to come back to its normal position.

In the chronic form the symptoms persist and become aggravated.

Wryneck may be congenital, in which case the shortened sterno-mastoid undergoes atrophy and a hardening process. Facial asymmetry usually accompanies it.

Partial rupture of the fibres of the sterno-cleido-mastoid during delivery, with intramuscular hemorrhage and hæmatoma, is frequently followed by permanent muscular contraction.

In tonic torticollis the head is drawn over with the occiput toward the shoulder of the affected side and the chin is thrown up in the opposite direction. In the clonic-spasm form the head is drawn into this position at frequent intervals with accompanying pain.

DIAGNOSIS is from traumatic torticollis, which shows contraction of the cervical articulations; from rheumatism involving the muscles of the neck by the coincident occurrence of lumbago or other evidence of rheumatism.

In rheumatism the sterno-cleido-mastoid is rigid and tender to the touch.

DIFFERENTIATION requires the exclusion of cervical spinal disease.

The clonic form is not to be confounded with rotary spasm, which is a form of convulsive tic. A very important distinction is to be made between torticollis depending upon other causes and that due to cerebral syphilis. Specific medication may serve to make the distinction in a suspected instance of the latter. The muscular pains from trichinæ at times somewhat simulate this condition; gastro-intestinal catarrh is, however, absent in torticollis. Reflex torticollis in children from scalp irritation, pediculi, etc., is occasionally seen.

PROGNOSIS in the acute form is good. Recovery takes place often without special medication. In the chronic form the condition may persist or return even after the most active measures.

TREATMENT.—Drugs and palliative measures rarely succeed

in the chronic form. In recent cases massage does well, and hypnotism has had reported cures to its credit.

Resection of nerves appears to offer the only radical course, and this, unfortunately, gives at times but temporary relief. The spinal accessory is the nerve usually resected.

Pattee reports a cure of spasmodic torticollis after six weeks of treatment by alternate hot and cold shower baths over the neck and shoulders for fifteen minutes night and morning.

If due to adenoid vegetations or chronic hypertrophy of the tonsils, removal of the latter may result in cure.—GILLETTE.

Extr. conii fld., gtt. lx. in twenty-four hours, and atropine hypodermatically.

Also, galvanic current applied to the side of the neck.—JOSEPH COLLINS.

℞ Curare	gr. ij.
Sterilized water	℥ iij.
M. S. Dose fifteen to thirty minims.	

—WEISS.

Systemic massage and intermittent traction.—SHAFFER.

1. Palliative treatment, whether by drugs, apparatus, or electricity, will rarely prove successful in well-established spasmodic torticollis.

2. Massage may prove of value in comparatively recent cases.

3. Resection affords practically the only rational remedy.

4. Operation on the spinal accessory nerve may afford relief, even if other muscles than the sterno-cleido-mastoid are affected; on the other hand, the affection, previously limited to the sterno-cleido-mastoid, may spread to other muscles in spite of this operation.

5. No fear of disabling paralysis need deter us from recommending operation, as the head can be held erect even after the most extensive resection.

6. It seems advisable in most cases to give preference to the resection of the spinal accessory as the preliminary procedure.

—WALTON AND RICHARDSON.

Mental torticollis, especially seen in the neurasthenic and debilitated. Here surgical interference is useless. The lightest touch of a finger may support the head.

Psychical therapeutics (not hypnotism); gymnastics.—BRISAUD.

Surgical treatment directed chiefly to the upper four cervical roots.

Caution.—Contraindicated when scaleni are involved.—RUSSELL.

Trichiniasis.

The early symptoms produced by the entrance of the *trichina spiralis* into the human subject are those of gastro-intestinal irritation. There is usually violent diarrhoea following stomach disturbance.

A week or two after this onset there are developed excessive soreness and pain in such muscles as the trichinae have penetrated.

DIAGNOSIS.—A history of having eaten raw ham, sausage, etc.; several members of a family having been simultaneously affected with symptoms resembling those of acute poisoning should suggest this as a possible cause.

There is irregular fever and often extreme muscular tenderness.

If a portion of muscle (deltoid) is excised, active motile trichinae may be found.

Rapidity of respiration not otherwise accounted for is a valuable sign.—F. A. PACKARD."

An increase in eosinophiles is noticed in the circulating blood, together with a well-marked leucocytosis.—W. S. THAYER.

DIFFERENTIATION.—The condition often passes unrecognized or is mistaken for some form of rheumatism.

PROGNOSIS.—In 357 cases reported in the United States and Canada during the last thirty-four years the mortality was 24.67 + per cent.

TREATMENT.—

R Benzoli..... 3 iss.
 Mucilag. acaciæ..... 3 vi.
 Extr. glycyrrh..... 3 ij.
 Aq. menth pip..... ʒ iv.
M. S. Shake and give a tablespoonful every hour or less frequently.
 (The whole in a day.)

—ROTH.*

Benzol, \mathfrak{m} x. every hour or two, increased to 3 iss. daily, followed by a brisk purgative.—POTTER."

The indications in the stage of invasion are to relieve the pains, to secure sleep, to combat the fever, and to support the patient's strength; there are no medicines which have any influence upon the embryos in their migration through the muscles.—OSLER.

Tuberculosis.

Since so much depends upon the period at which tuberculosis is first observed, either in the child or in the adult, we shall occupy ourselves chiefly with points in the early diagnosis, first in early life, which gives so large a percentage of instances.

What has been called glandular tuberculosis in infants usually has to do with the deep-seated nodes. If the pulmonary "glands" are sufficiently enlarged to produce pronounced symptoms, the probability of a tuberculous origin is strong, and, as Holt says, "the development in a child of chronic abscess in the anterior mediastinum is almost always due to tuberculous glands; and so is one in the posterior mediastinum, provided Pott's disease can be excluded." Here the chief diagnostic symptom is spasmodic cough with paroxysmal dyspnoea resembling asthma or croup and œdema or congestion of the face.

As aids to diagnosis we have a history of exposure and a family predisposition; pneumonia without other cause; a tendency to "catch cold" easily; malaise and "drooping" without known reason; a disproportion between the height and the

weight, especially with ill-developed chest and "delicate" constitution; incontinence of urine not attributable to other cause; and enlargement of the lymph nodes of the neck which cannot be referred to other origin.

DIFFERENTIATION.—Tuberculosis of the lungs in infants is distinguished from broncho-pneumonia by the occurrence of constitutional symptoms for days or perhaps weeks before the acute onset, which in pneumonia is abrupt and usually rapid. When a broncho-pneumonia resolves slowly or runs into chronic interstitial pneumonia, tuberculosis may be suspected, but it is not nearly so apt to be present as in the adult under the same conditions. In tuberculosis, fever is usually higher and more persistent, and wasting is more pronounced. The discovery of bacilli may decide the question in doubtful cases.

We must make our diagnosis of pulmonary tuberculosis, however, from the symptoms and physical signs before the appearance of the specific bacillus in the sputum.

The pitch of the percussion note is of the utmost importance.
—DELANCEY ROCHESTER.

The tuberculin test is harmless in minimal dose at intervals of a week or more, and may give great aid in diagnosis.—ALFARO.

Tuberculin injections should be employed with caution and not increased beyond two milligrams.

Improvement in some instances has been reported.—SLAWYK.

The most serviceable dose is $\frac{2}{10}$ to $\frac{3}{10}$ of a milligram for the first and $\frac{1}{2}$ a milligram for the second injection, diluted to 1 in 2,000.

Pulmonary Tuberculosis.

In consumption of the lungs, or phthisis, no single symptom is invariably found present. While cough is usually the first evidence which directs attention to the condition, its absence must not lead into a false interpretation on the part of the physician or a false sense of security on the part of the patient.

DIAGNOSIS.—Frequent clearing of the throat, so-called “hawking,” especially in the morning, or a dry “hacking” cough during the day, attributed usually to catching cold, should always suggest the possibility of latent tuberculosis. This may continue for a long time without causing apprehension, when a sudden hæmoptysis gives the first actual warning of danger. The expectorated blood is usually scanty in quantity but of a bright red color mixed with froth. The history of the case should exclude other causes of hemorrhage.

Lung tuberculosis in the adult is more likely to be confounded with pneumonia than with other processes, making an examination of the sputum often a necessity.

The presence of tubercle bacilli in the purulent sputum is a most positive sign when taken in conjunction with the results of physical exploration and history of the case. The bacillus is a small rod-shaped body having half the diameter of the red blood cell. At times it has a beaded appearance and the extremities are rounded.

For its detection a small flake or particle is selected from the specimen to be examined, and either teased and spread out on the cover glass, or, perhaps better, pressed between two cover glasses, which are then separated and allowed to dry. This is then fixed by passing the cover glass a few times through the flame, which coagulates the albumin. The solution of carbol-fuchsin (fuchsin, 1; alcohol, 10; five-per-cent solution of carbolic acid, 100) is dropped upon the specimen on the cover glass, which is held over the flame until fumes are seen to rise. The cover glass is then washed with water, which removes the excess of the solution, and then placed in a five-per-cent sulphuric-acid solution until the cover shows a faint pink. The counter stain is an alkaline solution of methyl blue (Loeffler's), which is then added and allowed to remain for about thirty seconds. The slide is now washed in water, dried between filter papers, mounted temporarily in glycerin or permanently in Canada

balsam, and examined. This requires a one-twelfth oil-immersion lens for satisfactory work, and the bacilli, if present, are seen stained red, while everything else in the field is stained blue.—JAMES J. JOHNSTON.

Even before cough, hemorrhage, or detection of bacilli in the mucus disengaged from the throat in the morning hawking process, we may have an elevation of temperature, possibly never exceeding one degree, but going on with pronounced regularity and lasting for a variable time. This fever is one especially of the evening. When suspicion has been aroused the thermometer should be used per rectum at regular intervals.

Night sweating, so common in the subsequent course, may be an exceptionally early sign. A faint sweetness of the expired breath has been noted by Rosenberg. The Frederick Thompson sign (a red line along the margin of the gums) is said to be noticeable, especially in youthful subjects.

Chlorosis is thought by many to be significant of tuberculosis and a tuberculin reaction is usually present in these subjects.—KLEBS, JR.

Malaise, associated with impaired nutrition, anorexia, and blood changes, determines the diagnosis.—WHITTAKER."

The employment of tuberculin, so valuable in the detection of the disease in cattle, has been very little used in the detection of human tuberculosis.

The fear that the bacilli may be rendered mobile and disseminate themselves throughout the economy would seem to be groundless as concerns the early stages, and applicable if at all only to the more advanced or latent cases with masses of bacilli encapsulated in particular tissues.

The first test dose of tuberculin for the cases of lightest infection (suspected) should be 5 mgm., the second 10 mgm., the third 2 cgm. These doses may be given on succeeding days, or, better, every other day, preferably in the evening, that the temperature records may be properly observed on the following

day. Failure to obtain reaction after three tests excludes the presence of tuberculosis.—J. T. WHITTAKER. *Does it? Not.*

The only accurate diagnosis of tuberculosis in the insane, in whom the physical signs are often masked, is by the subcutaneous injection of minute doses of Koch's original tuberculin.—ERIC FRANCE.

Caution.—The test is useful only in the absence of syphilis, actinomycosis, and leprosy, since these diseases also give the reaction.—GRASSET AND VEDAL.

The test should be employed in all obscure joint, spinal, bone, meningeal, and other possible tuberculous processes. It decides the question in tuberculous meningitis resembling typhoid, in which the Widal reaction may occur. One milligram, for a child, diluted with twenty or thirty minims of a half-percent sterile salt solution will give a reaction (rise of temperature and pulse rate) within twenty-four hours.—DILLON BROWN.

The x-rays have been applied to the early diagnosis of tuberculosis by Dr. J. Mount Bleyer," of this city, and also by Dr. Edward Stubbert" and others. Dr. Williams says the first signal of the disease can often be thus detected. As a result of the investigations of Stubbert in the Loomis sanatorium at Liberty, N. Y., the following conclusions are drawn:

1. Slight haziness indicates the beginning of tuberculous infiltration, and may or may not be accompanied by dulness.

2. Decided shadows indicate consolidation, the extent of which is in direct relation to the comparative density of the shadow thrown on the fluoroscope.

3. Circumscribed spots of bright reflex, surrounded by narrow dark shadow rings or located in the midst of an area of dense shadow, indicate cavities.

4. Intense darkness, especially at the lower portion of the lung, indicates old pleuritic thickenings over consolidated lung tissue.

Consolidation is distinguished in the fluoroscope from pleu-

risy by the fact that there is no dislocation of the heart or mediastinum.—BOUCHARD.

An early congestive process limited to the apex may have to be made out by percussion and auscultation at the very beginning. Hottenier, however, says that pain caused by subclavicular palpation is a proof of congestion. One hand is applied over the subclavicular region, the other is held over the corresponding scapula. The respiratory movements are followed by the hands, and moderate pressure is made by the finger tips in front during inspiration. Absence of pain means absence of appreciable lesion at the apex.

For the detection of a cavity the signs of most value are: a cavernous percussion note; cavernous breathing; cavernous râles and splashing râles and tussive splash; tussive resonance; post-tussive suction. This latter sign is also called the "india-rubber ball" sound. No single sign can be depended upon alone; an accurate diagnosis can be made only by a combination and observation of them all. I think one may say that hæmoptysis alone is most frequently not caused by lung disease.—MAGUIRE.

It is probable that no cavity smaller than an English walnut can be made out with absolute certainty. In the second stage large bubbling râles indicate its formation.

Incipient phthisis may be accompanied by muscular atrophy in the scapulo-thoracic region.—BOIX.

The best criteria for an early diagnosis are: Analysis of the sputum; inoculation of it into animals; reaction to serum and to tuberculin; leucocytosis when it is possible to eliminate all other causes capable of producing it; auscultation and percussion when they reveal changes limited to the apex of the lung; different degrees of expansion of the apices; the artificial catarrh induced by the use of potassium iodide; tuberculous lesions of other organs; previous pleurisies; the habitus phthisicus; cough and sweating.—SENATOR.

Early consolidation within the upper lobes is often associated

with venous varicosities one-third to two-thirds of an inch in length, beneath the skin in the neighborhood of the spines of the seventh cervical and three upper dorsal vertebræ.—W. OVEREND.

DIFFERENTIATION.—From pneumonia we have the microscopic examination showing the absence of the diplococcus of this affection and the presence of the bacillus of tuberculosis. Clinically we have the persistence of the signs of consolidation, an intermittent or remittent type of fever without the critical fall characteristic of pneumonia.

A pneumonic form of pulmonary tuberculosis may begin with chill followed by an atypical fever.

If confirmatory evidence is required, inoculation of lower animals may be practised.

Acute miliary tuberculosis may have to be differentiated from typhoid fever. There may be the same typhoid condition with high fever, delirium, stupor, and profuse sweating. It is distinguished by the absence of eruption, by the condition of pallor of the general surface rather than one of hyperæmia, by the absence, at an early period, of enlargement of the spleen. There is rapid breathing and the temperature undergoes exacerbations, often with an evening rise.

Syphilis of the lungs is excluded by its involving more commonly the lower portion than the apex, although it must be remembered that the two conditions may coexist and that tuberculosis may develop in a lung previously affected by specific disease. The therapeutic test by mercury and iodide of potassium is here of doubtful aid, since these remedies are not without their value in certain instances of tuberculosis free from suspicion of specific complication.

Albuminuria often accompanies the early stages of tuberculosis, especially in those predisposed by heredity.—TIESSIER.

The presence of albumin has no other significance than indicating a state of profound debility, and is common to various infectious processes.—SAUNDBY.

Blood changes are sufficiently marked in tuberculous persons, or even in those with a strong tuberculous predisposition, to enable a diagnosis being made from the blood alone, without knowledge of the history or physical condition.

In tuberculous blood there are abundant cell-disintegration, premature development, premature decay, and more or less deviation from the normal percentages of the various types of cells.—A. M. HOLMES.

I consider the appearance of the blood in the sputum the most important diagnostic symptom, and this appears before the clinical symptoms are well marked, before there is any consolidation at the apex, or any rough breathing, but when the cough has existed for about three weeks.—JAMES J. JOHNSTON.

Chronic tuberculosis presents a series of signs which are most conclusive. Chief among these are persistent cough with nummular or purulent sputa, progressive emaciation, night-sweats, sallow complexion, chest pains, dyspnoea, and occasionally hemorrhages. It is only in the early stage that difficulty arises, and this can be dispelled by the microscope and by the tuberculin reaction test. The signs of cavity cannot be differentiated from those occurring in bronchitis and bronchiectasis by physical examinations alone; the presence of bacilli is essential.

Elastic fibres in the expectoration usually indicate destruction of lung tissue without pointing to the cause.

PROGNOSIS depends largely on the timely discovery of a beginning tuberculous process and our ability to carry out a prompt and properly directed régime. Many patients recover under a combined method of management. The higher the morning temperature and the greater the evening hectic the worse the prognosis.

In the ulcerative stage perhaps less than three per cent recover. In probably twenty per cent the disease becomes quiescent

for a number of years. The average life in the remaining seventy-seven per cent is placed at two years.—BORLAND."

TREATMENT.—*To prevent its occurrence in those predisposed,* pure air, uniform climate, active outdoor exercise and occupation, uniform warmth secured by dress, regulation of hours of rest, cleanliness, ample diet, and every precaution to prevent "colds."—B. W. RICHARDSON.

The following formula for an "anticatarrhal pill" is said to be of great use in the preventive treatment of phthisis:

℞ Quininae sulphatis gr. xvij.
 Liq. potassii arsenitis ℥ xij.
 Liq. atropinae sulphatis (1 per cent) ℥ i.
 Pulv. gummi acaciae gr. xij.
 Extr. gentianae q.s. ut fiant pilulae xij.
 M. S. One pill thrice daily after meals.

General Management.—All exercise taken when free from fever without becoming fatigued or short of breath is beneficial. When temperature is 100° F. the patient must go to bed in a well-ventilated room until fever has subsided. An ice bag is placed over the heart when the temperature is 101° F. or over, and kept there until it falls to 100° F. A cold wet compress to encircle the chest, covered with dry flannel to remain over night, when there is pulmonary congestion, irritable cough, or pain in the chest.

A cold sponge bath, followed by vigorous dry friction, must be given every morning.

Fever patients should, as a rule, receive only liquid food, with bread and butter added, while the temperature is elevated; the heartier meals must be given when fever is absent.

All time possible should be spent out of doors, protected from wind and dust.

Medicinal treatment should be resorted to only when the general management is not followed by satisfactory improvement or when complications arise. Excepting quinine, and

preferably the salicylate, no drug antipyretics are permissible.

—KARL VON RUCK.

Woollen clothing. For pain in the chest, strapping.

R Ichthyol,

Aquæ destill.ââ 3 v.

S. Four drops thrice daily, gradually increased to forty.

—COHN.

Add a few drops of peppermint and give in a full glass of water before meals.—FRAENKEL.

In the initial stages of tuberculosis and in the pretuberculous anæmia creosote is especially useful, but is contraindicated in phthisis florida of febrile type.—JOHNSON ELIOT.

R Creosoti,

Benzoini.ââ gr. xv.

Pulv. carbo. lig. 3 iss.

M. Triturate the first two and add the charcoal slowly. Divide into five or ten cachets.

Or—

R Creosote, pure (beechwood)..... 8

Alcohol..... 550

Glycerin..... 250

Chloroform 20

Essence of peppermint..... 8

Of this mixture a teaspoonful every three hours in a glass half full of water.

—GREENLEY.

Pure creosote darkens on prolonged exposure to light, and the aroma is agreeable, resembling vanilla.

For hypodermic use five to ten minims of creosote may be given with satisfactory results.—COGHILL.

Apart from its influence upon the bronchial catarrh, creosote has a value in certain gastro-intestinal derangements, but the considerations for its preference are the same as they would be if the patient were not tuberculous at all.—KARL VON RUCK.

- ℞ Calcium phosphate,
 Menthol.....āā gr. iv.
 Sodium bicarbonate..... gr. iij.
 Powder of nux vomica,
 Iron lactate.....āā gr. 4
 M. To be taken four times a day with food.

—MARAGLIANO.

- ℞ Mass. petrolei..... ʒ iv.
 Creosoti optimi..... 3 iiss.
 Ovi vitelli..... No. ij.
 Syr. simplicis..... ʒ iss.
 Spt. frumentiq.s. ad 0 ss.
 M. S. Desertspoonful in a little milk at 8, 12, 4, and 8 daily.

—C. H. WILKINSON.

- ℞ Olei eucalypti..... ℥ v.
 Spir. chloroformi ℥ x.
 Spir. ætheris..... ℥ x.
 Mucilag. acaciæ..... 3 i.
 Glycerini..... 3 ss.
 Aquæ.....q.s. ad ʒ i.
 M. S. Give this three times a day. The oil is increased gradually to ℥ x.
 t.i.d.

—ARTHUR DOUGLAS.

Nuclein medication has given far better clinical results than any medicinal agent heretofore employed. Single dose of moderate size by injection once daily and long continued gives most satisfactory results.—H. M. KING."

Apart from tonic and nutritive agents antiseptics are alone of use, but they must be freely used.

Olei caryophylli, ℥ v. in capsule three to five times daily, followed by a glass of milk. Increase each day by one drop until twenty-five or thirty drops are given each time.—E. FLETCHER INGALS.

Iodoform or eucrophen in oil as an inunction cure:

- ℞ Eucrophen..... 3 i.
 Olei rosæ..... gtt. i.
 Olei anisi..... 3 i.
 Olei olivæ..... ʒ iiss.
 M. Rub in about a tablespoonful in the region of the armpits and thighs before retiring.

Sponge off, if desired, with bay rum or bath whiskey in morning.—L. F. FLICK.

Iodoform, gr. i. For one pill. Six daily.—FOXWELL.

℞ Potassii iodidi..... gr. xiv.
Iodi puri..... gr. xv.
Sodii chloridi 3 iss.
Aquæ destil O ij.

M. S. Take three or four tablespoonfuls in a glass of milk three to six times daily.

—RENZI.

The more creosote one can tolerate, the better its effect. Since creosote can be borne better in no other form than that of creosote carbonate, this is the ideal preparation.—SOMMERBRODT.

Pure beechwood creosote may be given dissolved in cod-liver oil in gradually increasing dose up to one hundred and eighty minims a day.—BEALE.

℞ Creosoti ℥ cxxviiij.
Olei menthæ piperitæ..... ℥ xxx.
Spir. chloroformi..... 3 ij.
Tinct. gentianæ comp..... 3 i.
Tinct. nucis vomicæ..... 3 iiij.
Spir. frumenti q.s. ad 3 viij.

M. S. One drachm three, four, or five times a day in water (a wineglassful).

—MARR.

℞ Creosoti 3 ij.
Alcohol. rectificat..... 3 xvij.
Glycerin. pur 3 viij.
Chloroformi 3 v.
Olei menthæ piperitæ..... 3 ij.

M. S. Tablespoonful in sweetened water before each meal.

—CAROSSO.

℞ Creosoti (beechwood) 3 i.
Tinct. gentianæ 3 i.
Alcoholis..... 3 i.
Vini albi..... q.s. ad 3 iv.

M. S. One drachm in wine three times a day.

—SMITH.

Creosote should be administered carefully, systematically, and continuously in every case of consumption, provided it is well tolerated and there is no contraindication or idiosyncrasy as to its action.—CROCK.

As creosote is not always borne, "creosotal" and carbonate of guaiacol are to be preferred in all respects.—DUJARDIN-BEAUMETZ.

To allay gastric irritation before beginning creosote :

℞ Sodii bromidi gr. xv.
 Bismuthi subnit gr. x.
 Pepsini (crystal)..... gr. iij.
 M. S. Every four hours.

Then begin with two-minim doses, and in acute cases increase by two minims every fourth day until twelve minims are given each time. Then if improvement is satisfactory, add two minims every eight or nine days until twenty-minim doses are reached.—CONWAY.

Phosphate of sodium, gr. xxx. thrice daily, along with subcutaneous injections of six or seven grains of chloride of sodium.—STADELMANN.

Dyspnœa of acute phthisis :

℞ Caffeine citrate gr. xxx.
 Sulphuric ether 3 v.
 Inject two grains (gtt. xxx.) morning and evening.

—BERNHEIM.

℞ Guaiacol ℥ ij.-x.
 Spir. vini rect. 3 ss.
 Aquæ 3 ss.
 M. S. Give two or three times daily.

—CROOKSHANK.

℞ Ichthyol.
 Aquæ menth. pip. p.æ.
 M. S. Gtt. xx. to xl. four times daily.

—FRAENKEL.

Creamy emulsion of cod-liver oil :

℞ Cod-liver oil 500 parts.
 Finely sifted sugar 190 "
 Pulv. gum Arabic,
 Pulv. gum tragacanth.....āā 5 "
 Infusion of coffee..... 200 "
 Rum 100 "

Mix the sugar and gums in a mortar, and in the bottle

which is to contain the emulsion shake together the oil and cold infusion of coffee. Pour a sufficient quantity of this liquid into the mortar to make a paste. While stirring, add to the portion remaining in the bottle the rum, and then gradually incorporate it with the emulsion.—GRAY.

℞ Olei morrhue..... ʒ ij.
 Liq. calcis sacch..... ʒ ss.
 Spir. cinnamomi..... 3 ss.
 Glycerini..... ʒ iss.
 Aquæ..... q.s. ad ʒ vi.

M. ft. emulsio. S. A teaspoonful to a tablespoonful thrice daily after food, the bottle having first been shaken.

—J. W. MOORE.

Or—

℞ Ether..... 3 ij.
 Cod-liver oil..... 3 v.
 Dose, 3 ii.

Or, for an "oil sauce":

℞ Acidi nitrici dil..... ℥ xv.
 Decoct. cinchonæ..... ʒ i.
 Mix with oil at the time of using.

—WILLIAMS.

℞ Phenacetini..... gr. xl.
 Strychninæ sulphatis..... gr. i.
 Ammonii chloridi..... 3 i.
 Quininæ sulphatis..... gr. xxxij.
 Pulvis capsici..... gr. x.
 Pulvis digitalis..... gr. vi.
 Ferri sulphatis..... gr. xx.
 Atropinæ sulphatis..... gr. 1½

M. ft. capsulæ No. xxxi. S. One capsule four times a day.

—MAYES.

℞ Iodoform..... 2 gm.
 Tannin..... 4 "

M. et ft. pulv. No. xl. S. Two to four powders a day if tendency to diarrhœa exists.

Or—

℞ Iodoform..... 2 gm.
 Naphthalin..... 2-4 "

M. et ft. pulv. No. xl. Two to four powders a day if tendency to constipation exists.

—E. DE RENZI.

For the cough :

- ℞ Acidi hydrobromici dil.,
 Aquæ laurocerasi.....℥℥ 3 iij.
 Glycerini..... 3 ij.
 Aquæ vel aq. chloroformi.....q.s. ad 3 vi.
 M. S. A dessertspoonful to be sipped occasionally.

—J. W. MOORE.

Or—

- ℞ Codeinæ..... gr. iv.
 Acidi hydrochlorici dil 3 ss.
 Spir. chloroformi 3 iss.
 Syr. limonis 3 i.
 Aquæ.....q.s. ad 3 iv.
 M. S. A teaspoonful frequently when the cough is troublesome.

Or—

- ℞ Terpin gr. xv.
 Codeine,
 Extract of hyoscyamus.....℥℥ gr. iss.
 Extract of belladonna gr. 4
 Mass of cynoglossum..... gr. viiss.
 M. Divide into ten pills. S. Four to be taken in the course of twenty-four hours, between meals.

—SCHOULE.

When sputum is difficult to raise :

- ℞ Extr. pruni virginianæ fld.,
 Syr. scillæ comp℥℥ 1 gm.
 Syr. lactucarii..... 8 "
 At a dose every three or four hours.

Or, take in hot water on arising :

- ℞ Sodii bicarbonatis gr. x.
 Sodii chloridi..... gr. iij.
 Ætheris ℥ v.
 Aquæ anisi 3 i.

- ℞ Bromoform 80 gtt.
 Alcohol 10 gm.
 Syrup ipecac compound 100 "
 Syrup opium 100 "
 Syrup cherry laurel..... 100 "

Mix in the order indicated to obtain a clear mixture. S. Three or four tablespoonfuls daily, between meals.

—ROLLAND.

To secure rest give at night :

- ℞ Morphinæ acetatis gr. ʒ
 Acidi hydrocyanici dil ℥ ij.
 Oxymellis scillæ ℥ xxx.
 Aquæq.s. ad 3 i.

Cannabis sativa relieves cough while it stimulates and exhilarates the patient as does no other drug.

℞ Extr. cannabis indicæ aq. 10 gm.
 Aquæ aurantii florum. 50 gm.
 Saccharin. (soluble) 0.20 cgm.
 M. S. Dessertspoonful once or twice daily.

—LEES.

For inhalation in paroxysmal cough :

℞ Tinct. iodi ætherealis. 3 ij.
 Acidi carbolicæ. 3 ij.
 Creosoti vel thymolis. 3 i.
 Spiritus chloroformi. q.s. ad 3 i.

The Burney Yeo inhaler, made of perforated zinc, is preferred, ten drops being used each time.

Or, eucalyptol. Or, pure terebene, 3 ss. sprinkled on a handkerchief and allowed to vaporize near the nose.—F. C. COLEY.

Useful formulæ are:

℞ Olei eucalypti 50 parts.
 Spir. chloroformi 50 "

℞ Olei pini sylvestris. 50 parts.
 Spir. vini rect ... 50 "

℞ Menthol 20 parts.
 Olei olivæ 80 "

S. Use about twenty drops in inhaler.

Or, as sedative, succus conii, 3 i.; or, tinct. lupulini, 3 ii.; or, tinct. hyoscyami, 3 i.; to boiling water, 3 viii., and a few drops of chloroform, in a Maw's porcelain inhaler.

Caution.—Avoid if hæmoptysis has recently occurred.—CROOKSHANK.

Iodoform ether, ten per cent. Or—

℞ Acidi carbolicæ. 8
 Glycerini 10
 Aquæ destill 100

—C. EDSON.

In early stages, formalin, gtt. i-ii., in a respirator.—J. L. GREEN.

Or, oleum cinnamomi to cause disappearance of bacilli and prevent their extension along the bronchi to infect new lobules.—THOMPSON.

Or, the constant inhalation of essence of peppermint through a perforated zinc mask.—CARASSO.

No mechanical device exceeds in value the "pneumatic cabinet."—BARTON.

To allay cough, even in advanced tuberculosis:

℞ Guaiacol,	
Terebene,	
Thymol,	
Eucalyptol.....	ss 10
Menthol.....	5
Spirit chloroform	10

M. S. Five or ten drops on absorbent cotton in an inhaler five or six times daily.

—W. H. WOODBURY.

The best inhaler and one which patients will use after rejecting others is an ordinary wooden cigar holder. The absorbent cotton is packed loosely in the cigar end, the mouth-piece being held between the lips. Five or ten drops of peppermint oil or a combination of two or more essential oils, as in the above, suggested by Dr. Woodbury, is applied to the cotton frequently.—DE LANCEY ROCHESTER.

In laryngeal tuberculosis the local use of formaldehyde, a 1 to 10 per cent watery solution of the 40 per cent solution, was followed by benefit. Also inhalation of ethyl iodide.—S. SOLIS-COHEN.

To allay cough and to reduce the fever in late stages, inhalations of nitrous-oxide gas are advised.—S. SOLIS-COHEN.

Trichloride of iodine, guaiacol, and lactic acid are the best local remedies.—WHALING.

For inhalation at frequent intervals and long continued, ether by the modification of Brunton's formula:

℞ Iodoform	gr. xxiv
Creosote.....	℥ iv.
Oil of eucalyptus.....	℥ viij.
Chloroform	℥ xlvij.
Alcohol,	
Ether.....	āā q.s. ad ʒ ss.

M.

℞ Tinct. iodi ætherealis,	
Acidi carbolic.	āā ʒ ij.
Creosoti.....	ʒ i.
Spir. vini rectificati.....	q.s. ad ʒ i.

M.

—COGHILL.

℞ Creosote	ʒ i.
Alcohol	q.s. ad ʒ ss.

M.

—BEVERLEY ROBINSON.

At first he uses this from five to fifteen minutes three times a day and then lengthens the time of inhalations.—IRWIN H. HANCE.

For intratracheal injection :

℞ Mentholi	8
Camphoræ	2
Olei eucalypti.....	8
Guaiacoli.....	0.5
Alboleni	100

About 5 drachms or 20 c.c. of this should be used.

—B. F. LYLE.

℞ Creosoti.....	ʒ i.
Olei ricini.....	ʒ iij.
Olei gaultheriæ.....	ʒ i.
Liq. petrolati	ʒ iij.
Mentholi.....	gr. x.

Spray the larynx three times daily.

—W. F. CHAPPELL.

℞ Ether with iodoform to saturation.....	100 c.c.
Guaiacol.....	5 "
Eucalyptol.....	2 "
Menthol	1 "

M. S. Inject 2 c.c.

—VACHER.

R Morphinae hydrochloratis,

Sacchari lact.**āā** gr. **xx**.

Gummi arabici gr. **xv**.

M. fiat pulv. About one-half grain of this should be used at each insufflation. The effect lasts for many hours, relieving the pain of swallowing.

—**LERMOYEZ**.

In the dysphagia of laryngeal tuberculosis in stage of ulceration:

R Cocainae hydrochloratis 0.25 cgm.

Morphinae hydrochloratis 0.10 cgm.

Antipyrin 2 gm.

Aquae laurocerasi destil.,

Aquae dest. steril.**āā** 50 gm.

M. S. Dessertspoonful three or four times in twenty-four hours.

Or, after spraying the larynx with an alkaline solution insufflate with the following three-quarters of an hour before time of taking food:

R Morphinae hydrochloratis 0.02 cgm.

Sacchari lactis,

Gummi arabici**āā** 0.04 "

R Iodophenol $\frac{3}{4}$ ij.

Ethyl iodid. $\frac{3}{4}$ i.

Spiritus vini rect. $\frac{3}{4}$ ij.

Spiritus ætheris comp. (Squibb's) $\frac{3}{4}$ i.

Aquae. $\frac{3}{4}$ i.

M. S. For inhalation.

—**J. A. DOWER**.

For ten successive days, mornings (sometimes evenings also) give subcutaneous injections of 0.05 gm. of sodium cacodylate; then intervenes a pause of ten days; meanwhile for fifteen successive days give internally, after meals, 0.5 to 1.0 gm. of thiocol in powder form. This is followed by a five-days' pause, and the cycle is then repeated.—**SCHOULL**.⁷⁶

For hypodermic use:

R Beechwood creosote 25 gm.

Camphor 15 "

Aristol 10 "

Eucalyptol 30 "

Sterilized neat's-foot oil sufficient to obtain 250 c.c.

One cubic centimetre of this solution contains one hundred milligrams (about one and one-half grains) of creosote.—GILBERT.

℞ Hydrargyri chloridi corrosivi..... 1
Aque destill..... 1,000

Inject every second day into the subclavicular or spinal region one-half to one cubic centimetre.

—DUBOIS.

To inject once a day into the subcutaneous tissues of the flank or abdomen with an antitoxin syringe:

℞ Oil of cloves (Merck) ℥ x.
Best olive oil (French) ℥ l.

Or give five minims of oil of cloves in capsule three times a day.

Follow each dose with a glass of milk, and increase gradually up to thirty minims.

—INGALS.

Intravenous or intramuscular injections of cinnamic-acid emulsion.—LANDERER.

Begin with one and one-half minims of a five-per-cent emulsion in the gluteal region (on account of danger of intravenous injections). Increase gradually till maximum dose of fifteen grains is given. Continue this for a month or till disappearance of symptoms. While not a specific it is capable of curing a considerable number.—HEUSSER."

Inject into the median basilic or cephalic vein sodium cinnamate, gr. $\frac{1}{100}$ to $\frac{1}{50}$ gradually increased to gr. $\frac{1}{4}$, every second day.—MANN.

Bromine-iodine compound :

℞ Iodine..... gr $\frac{1}{2}$
Bromine..... gr. $\frac{1}{4}$
Phosphorus..... gr. $\frac{1}{100}$
Thymol..... gr $\frac{1}{8}$
Menthol..... gr. $\frac{1}{8}$

This is to be chemically compounded with one drachm of sterilized oil so that no free iodine or bromine is present, making a bright, transparent, cherry-colored solution.

Dose, 3 i. daily, injected into the back of the shoulder.

—INGRAHAM."

Drugs containing iodine are the best aids to immunity. They are best given by inunction. The essential oils, and especially peppermint and thyme, unfit the tissues as soil for the propagation of bacilli.—F. L. FLICH.

℞ Oil of thyme,
 Oil of eucalyptus,
 Oil of cinnamon..... \mathfrak{ss} \mathfrak{m} lxxx.
 Oil of olives (steril) \mathfrak{z} iiss.
 Iodoform 3 i. gr. xv.
 Bromoform..... \mathfrak{m} xxx.
 M. S. Empty \mathfrak{m} xlv. by means of a long curved syringe into the trachea.
 —MENDEL.

The liquor auri et mangani comp. of J. Blake White is a combination of chloride of gold and sodium, gelsemium, arsenite of strychnine, and iodide of manganese. Dose, ten drops.

A sedative tonic without opium :

℞ Acidi hydrocyanici..... 3 ss.
 Acidi nitrici dil..... 3 iij.
 Glycerini..... \mathfrak{z} i.
 Inf. quassiae..... q.s. ad \mathfrak{z} vi.
 M. S. A tablespoonful in a wineglass of water three times a day.
 —BEGBIE.

Liquor hypophosphitum compositus :

℞ Calcii hypophosphitis..... gr. 640
 Sodii hypophosphitis..... gr. 384
 Potassii hypophosphitis..... gr. 128
 Liq. ferri hypophosphitis..... \mathfrak{m} 384
 Aquæ..... q.s. ad \mathfrak{z} 32
 Dissolve and filter. Dose, one to four drachms.

—W. M. POLK.

Absolute rest should be insisted upon during acute exacerbations, while enforced pulmonary exercises and out-of-door life are quite as important during the intervals of relative quiescence.—DE LANCEY ROCHESTER.²¹

Fresh air and over-feeding are essential points of treatment, but unless carefully carried out there is danger of overdoing the open-air cure.

Night Sweatings.—Among the drugs recommended for the colliquative sweating, especially that attending the early morning remission of the fever, are atropine, picrotoxin, agaricin, sulphonal, zinc oxide, and aromatic sulphuric acid, together with sponging with diluted vinegar or acetic acid, and perhaps gr. v. of Dover's powder.—CROOKSHANK.

If not successful give port-wine negus at bedtime, and—

℞ Zinci oxidi..... gr. iiss.
 Extr. belladonnæ..... gr. ʒ
 Extr. gentianæ..... q.s.
 M. S. For one pill.

For hectic sweating :

℞ Quinine sulphate..... gr. xxv.
 Powdered digitalis gr. xij.
 Powdered ipecac gr. vi.
 Powdered opium gr. vij.
 Extract of licorice..... a sufficiency.
 M. Divide into thirty pills. From one to three pills to be taken daily.
 —HEIM.

Or, *when excessive*, camphoric acid, gr. xxx. in capsule in one or two doses two or three hours before time for sweating to begin.—STOCKMAN.

Picrotoxin, gr. $\frac{1}{80}$ – $\frac{1}{60}$ by mouth or by injection. Or, gelsemine, gr. $\frac{1}{60}$. Agaricin, gr. $\frac{1}{6}$ – $1\frac{1}{2}$.

℞ Scopolia (alkaloid)..... 0.015
 Spt. vini rect..... 6
 M. S. Gtt. x. three times daily.

—DUCKWORT AND DUNSTANT.

℞ Extr. secalis cornuti..... 3
 Spir. dilut.,
 Glycerini,
 Aquæ destill..... ãã 5
 M. S. For subcutaneous injections; one cubic centimetre at bedtime.

—GOLDENDACH.

℞ Sulphate of atropine 0.0005 gm.
 Sulphate of zinc..... 0.12 gm.
 Gallic acid 0.12 gm.
 Creosote..... 10 gtt.
 M. div. in pil. No. v. S. One pill thrice daily.

℞ Tellurate of sodium gr. ij.-iv.
 Alcohol..... ʒ ij.

M. S. A teaspoonful morning and evening in a wineglass of sweetened water during three successive days.

—JOGUET.

For hæmoptysis, plumbi acetas (crystal), 0.10 cgm. twice daily.

One or two five-grain powders before bedtime often give satisfactory results in night sweats.—GOLDENDACH.

Sulphonal, gr. xv.-xxx. each night.—COMBEMALE AND DES-CHEEMAKER.

℞ Acidi gallici ... gr. xxx.
 Ergotinæ..... gr. xv.

M. et ft. pillulæ No. xx. Five or more daily.

A small dose of morphine hypodermatically at the time of the attack.—DEGNY.

One and a half to two and a half grains of chloral per rectum if the heart is sound.—PÁL.

If profuse bleeding from cavity, atrop. sulph., gr. $\frac{1}{80}$ — $\frac{1}{15}$ hypodermatically.

In that of active hypercæmia, codeine phosphate, gr. ss. by hypodermic or by mouth.—BABCOCK.

℞ Gallic acid,
 Ergotinãã 1 gm.
 Distilled water,
 Syrup.....ãã 25 gm.

M. S. Teaspoonful every two hours, or, if the bleeding is severe, every hour. Better results follow the use of the ergotin in this mixture than when it is given alone hypodermatically.

Or, tinct. geranii maculati, ℥ ii.-v. every two hours.

Rest; morphine, aconite, or other vascular sedative; dry salt and a saline cathartic; counter-irritation; obstructed expiration.

Do not use astringents; ice externally; stimulants; the vasoconstrictors.—CHARLES E. QUIMBY.

℞ Ergotini (Yvon)..... 5 gm.
 Morphinae hydrochloratis..... 0.04 cgm.
 Antipyrin..... 1.50 gm.
 Sparteinae sulphatis..... 0.20 cgm.
 Atropinae sulphatis..... 0.002 mgm.
 Aquæ dest.....q.s. ut ft. sol. 10 c.c.

M. S. For hypodermatic injection use one syringeful and repeat every half-hour until four or five have been given.

℞ Fluid extract of hydrastis canadensis,
 Tincture of hydrastis canadensis.....ââ ʒ ij.
 Codeine gr. vi.

M. S. Twenty to forty drops three times a day.

Rest in bed or in half-sitting position, dry cupping of chest, ice over upper chest.

Infusum lycopi virginici (bugleweed) p.r.n.—ROCHESTER.

Table salt, to be “poured down” in dose of a teaspoonful to a tablespoonful as soon as possible after bleeding begins. Repeat dose for three or four days.—BENJAMIN RUSH.

Dyspepsia and vomiting in tuberculous subjects :

℞ Prepared chalk,
 Calcined magnesia.....ââ gr. iv.
 Manganese dioxide..... gr. ij.
 Powdered belladonna..... gr. ʒ

M. For one dose, to be taken after eating.

If there is severe pain, one sixth of a grain of powdered opium may be added.

In vomiting which follows excessive cough:

℞ Morphinae hydrochloratis gr. ʒ
 Aquæ destill..... ʒ iv.

M. S. One or two teaspoonfuls as required.

—BARTH.

In vomiting due to coughing after meals :

℞ Liq. strychninae (P. B.)..... ℥ v.
 Bismuthi subnitratiss..... gr. xx.
 Mucilag. tragacanthæ 3 ss.
 Aquæ.....q.s. ad ʒ i.

M. S. To be taken four times daily.

—CROOKSHANK.

In the vomiting after taking food:

℞ Menthol..... 0.20 cgm.
 Mucilag. acaciæ..... 150 gm.
 M. S. Teaspoonful after each meal.

—MATHIEU.

℞ Cocaine..... 0.25 cgm.
 Elix. cinchonæ..... 20 gm.
 Aquæ..... 150 "
 M. S. Dessertspoonful every two hours.

—BARIÉ.

℞ Menthol..... 1 gm.
 Spt. vini gal..... 20 "
 Syr. simp..... 80 "
 M. S. Dessertspoonful in a little water every hour.

—LICHTENSTEIN.

In anorexia:

℞ Silver nitrate..... gr. viiss.
 Bread crumb..... a sufficiency.
 M. Divide into fifty pills. One to be taken with each meal.

To control vomiting give spir. ammoniæ aromaticus, gtt. x., and add a Fairchild's peptonizing powder to the milk given.—PAGE.

As a tonic:

℞ Tinct. zingiberis..... 3 i.
 Sodii bicarbonatis..... 3 ij.
 Tinct. gentianæ comp..... q.s. ad 3 iv.
 M. S. A teaspoonful at dose.

—A. L. LOOMIS.

Or, put upon an exclusive koumyss diet for several weeks.—ROCHESTER.

℞ Sodii bicarbonatis..... gr. xv.
 Acidi hydrocyanici dil..... ℥ iv.
 Infusi gentianæ arom..... 3 i.
 M. S. Twice daily before food.

—SIR R. QUAIN.

In diarrhœa, salol, gr. v.-x., one, two, or three times daily.—F. C. COLEY.

When persistent and attended with vomiting:

℞ Acidi sulphurici dil.,
 Nepenthe.....āā ℥ x.
 Syr. aurantii..... 3 i.
 M. S. For one dose. To be taken in water.

—A. RANSOME.

To relieve the foetid diarrhœa of tuberculous enteritis:

℞ Tinct. chloroformi et morphinæ..... 3 i.
 Glyceriti acidi carbolicī 3 i.
 Aquæ menthæ pip.....q.s. ad 3 ij.
 M. S. A teaspoonful in water after each liquid motion.

Or, the following will be found useful:

℞ Acidi carbolicī puriss. crystallisati..... gr. vi.
 Pulv. opii..... gr. iss.
 Glycerini..... ℥ iss.
 Pulv. althææ gr. xij.
 M. Divide into twelve pills. S. One to be taken thrice daily while necessary.

℞ Bismuthi salicylatis..... gr. xx.
 Tinct. camphoræ comp..... ℥ xx.
 Mucil. tragacanthæ 3 ss.
 Aquæ camphoræq.s. ad 3 i.
 M. S. To be taken every four hours if necessary.

—CROOKSHANK.

Or, if this fails:

℞ Cupri sulphatis..... gr. ½
 Pulv. opii gr. ½
 Ext. gentianæ gr. ij.
 M. To make a pill. Give one, two, or three times a day.

—FOWLER.

For the anæmia of catarrhal phthisis:

℞ Sol. ferri albuminat..... 3 ij.
 Olei morrhuæ 3 vi.
 M. S. Tablespoonful t.i.d.

—PAGE.²⁰

Or, red bone marrow.—ROCHESTER.²¹

Or, if patient is tired in the forenoon arsenic is indicated.

Ferri arsenias, gr. ⅓. For one pill, t.i.d.—CROOKSHANK.

Usually there is mixed infection and we need a specific for pyæmia quite as much as for tuberculosis.—W. S. DAVIS.

For the local treatment of tuberculous glands:

℞ Balsami peruviani 5
 Ætheris 1
 S. Paint into, upon, and over suppurating or other glands.

—LANDERER.

Tuberculous Adenopathies.—Country life, cod-liver oil, followed by one-fourth of a gram of amylaceous pepsin, and at the end of each principal meal a liqueurglass of the following:

℞ Glycerini neutr. 50 gm.
 Sodii phosphatis,
 Calcii phosphatis. 10 gm.
 Extr. aq. quinquinæ 15 gm.
 Vini Malagæ. to make 1 litre.

—SEBILÉAU.

Tuberculosis of the breast:

℞ Resorcin. 5 parts.
 Ichthyol. 10 "
 Mercurial ointment. 25 "
 Lanolin. 50 "

Apply.

—ROSWELL PARK.

In skin tuberculosis:

℞ Europhen. 5
 Olei oliv. 100
 Apply daily.

—DEWITT.

In tuberculous ulcers, pulv. sulphuris, ʒss. Apply locally.
 —MILLER.

In peritoneal tuberculosis, simple puncture of abdominal cavity to draw off fluid. Rectal injections of creosote. Ichthyol inunctions. Simple laparotomy letting in air and light.

In tuberculosis of the bladder:

℞ Creosoti. 0.05 cgm.
 Iodoformi. 0.01 cgm.
 Sodii arsenatis. 0.001 mgm.
 Cynoglossi (Fr. Cod.) 0.05 cgm.
 Pulv. acidi benzoici. q.s. ut ft. pil. No. i.
 D. tal. dos. No. vii. S. Two pills twice daily.

—GUYON.

For children:

℞ Creosoti puri..... ℥ xlvij.—3 ij.
 Mucilag. acaciæ..... gr. xlvij.
 Glycerini ʒ ss.
 Olei gaultheriæ ℥ x.
 Emuls. olei morrhuæ..... q.s. ad ʒ vi.
 M. S. Teaspoonful one hour after meals.

℞ Ol. morrhuæ..... 3 ss.
 Tinct. gentianæ comp. ℥ v.
 Liquoris calcis ℥ xxv.

Serum treatment has now the right to claim a place in the therapy of tuberculosis. Too much is generally expected of it.

By rectal injections of serum many untoward effects are obviated. The disease is curable by serums prepared to meet the conditions of mixed or unmixed affections.—PAUL PAQUIN.

Paquin's antitubercle serum is well spoken of by some observers. It is given in 5–6 ℥ dose, 30 ℥ being the average maximum dose. Inject into sides of back.

Oxytuberculin, prepared by acting upon tuberculin with peroxide of hydrogen under great pressure and protracted heat.—HIRSCHFELDER.

Antituberculin is a remedy possessed of some value in the alleviation of the sufferings of patients in advanced tuberculosis, in which the symptoms are largely those of tuberculin poisoning.—JOS. MCFARLAND."

Antiphthisic serum, formula of Dr. Carl Fisch, made by the John T. Milliken Company, of St. Louis, is the best of the anti-tuberculous serums.—CHARLES DENISON."

Tuberculin (TR) has been employed in a large number of instances with better results than followed the original tuberculin.

It is given in the same manner, $\frac{1}{500}$ of a milligram being the initial dose. Repeat every second day. The maximum dose is 1 mg. The original solution (1 c.c. holding 10 mg. of solid substance) may be diluted with a normal salt solution.—KOCH.

Too much reliance should not be placed upon any serum so far presented; recognized older methods should be conjointly used.

When there is mixed infection and other means fail, anti-streptococcic serum (Marmorek); a first injection of 10 c.c.—KNOFF."

Maragliano's serum, originally prepared from goat blood and subsequently from the horse, seems specially indicated in the slowly progressive cases, without fever, and with circumscribed broncho-pneumonic foci.

In advanced stages tuberculosis is usually a mixed infection demanding mixed treatment:

- R Potassii cyanidi..... gr. iv.
- Morphinæ sulphatis..... gr. iss.
- Tinct. hyoscyami,
- Spiritus chloroformi ℥ ℥ ʒ iss.
- Syr. acaciæ..... ʒ iv.
- Syr. simplicis..... q.s. ad ʒ viij.

M. S. Teaspoonful every three hours.

To empty large cavities and make coughing easy, let patient lie with head and chest at a downward angle, called by Willis "coughing down hill."—DIDAMA.

For hectic :

- R Quininæ sulphatis..... gr. iv.
- Strychninæ sulphatis..... gr. ʒ

In capsule once or twice daily.

—MITCHELL.

- R Liq. potassii arsenitis..... ʒ i.

M. S. Gtt. i.-ii. increased to gtt. v.-vi.

—SAVIGNY.

Or, nuclein administration.—ROCHESTER."

For an atmospheric spray in advanced stages of pulmonary tuberculosis.

- R Guaiacol..... 10
- Eucalyptol..... 8
- Carbolic acid..... 6
- Menthol..... 4
- Thymol..... 2
- Oil of clove..... 1
- Alcohol (90 per cent)..... 170

Mix and dissolve. S. For frequent spraying in the sick-room.

Climate.—Theoretically, there is much to fear from the effort necessary to obtain sufficient oxygen in high altitudes, especially in patients who have had hemorrhages. Practically this fear has been proved to be quite baseless, except in those whose disease has advanced so far that there is not enough available air space left in the lungs for free respiration at any altitude. Altitudes of less than eight thousand feet are only exceptionally dangerous for hemorrhagic cases.—MUNN.

Modern methods of scientific treatment, combined with a liberal diet of good nourishing food and several hours spent each day in the open air, are worth far more than any change of climate can possibly be to the vast majority of sufferers.—J. L. BARTON."

There is danger in overdoing the air cure. In inclement weather patients should remain indoors.—VOLLAND.

Moderately dry aseptic air containing as much ozone as possible is the matter of vital concern. Altitude has probably little influence.—BORLAND."

Fresh air is not all; it is the altitude that brings about an excitation of the blood-making organs.—VON ZIEMSEN.

So far the only treatment that has given any positive success is climate.—VON LEYDEN.

Altitude is second only in importance to fresh air.—SENATOR.

Aeropathy is destined to take the highest place in all that pertains to the cure and prevention of pulmonary phthisis.—T. N. MCLEAN."

Contraindications of Altitude in Phthisical Cases.—1. Phthisis with double cavities. 2. Fibroid phthisis and all other conditions in which the healthy pulmonary area hardly suffices for respiratory purposes at sea level. 3. Catarrhal and laryngeal phthisis. 4. Acute phthisis of all kinds, especially when associated with nervous irritability. 5. Phthisis with pyrexia. 6. Emphysema. 7. Chronic bronchitis and bronchiectasis. 8. Organic diseases of the heart and great vessels. 9. Disease of

the brain and spinal cord. 10. Anæmia. 11. Patients too feeble to take exercise. 12. Patients who have degenerated organs from long residence in tropical countries.—C. THEODORE WILLIAMS.

X-ray therapy. Electric light baths.

Uterine Diseases.

DYSMENORRHOEA.

When due to the uterus alone, the pain occurs with severity only at the time of the menstrual epoch and may be attended with nausea, vomiting, and possibly tenesmus of the anus or bladder. If due to the adnexa there will be pelvic pains in the interim and signs of chronic salpingitis or pelvic peritonitis. When, as is often the case, it is associated with endometritis, we may have a membranous, a neuralgic, or an obstructive form.

DIAGNOSIS from lumbo-abdominal neuralgia is made in the intervals between the menses by discovery of characteristic painful points, especially that at the junction of the body with the cervix uteri.

Vaginitis exfoliativa is distinguished from endometritis exfoliativa by the shedding being painless and not associated with uterine hemorrhage.

TREATMENT.—Discover if possible the causes in each instance and direct treatment accordingly.

℞ Extr. belladonnæ,
Extr. cannabis indicæ.....ãã 0.20 cgm.
Olei theobromæ..... q.s.
M. fiat suppos. No. x. S. One night and morning as required.

—FARLOW.

In the membranous form of dysmenorrhœa :

℞ Antipyrin..... 10
Ammonii bromidi,
Potassii bromidiãã 5
Extr. viburni prunifol..... 20
Spir. vini gallici,
Syr. aurantiiãã 40
Aquæ destill 90
M. S. A teaspoonful four or five times daily.

For the pain, opiates; when cervical stenosis is found, dilatation.—CUSHING AND CUMSTON.

Scarify the os externum at intervals of three or four days between the periods; just before the flow is expected dilate the cervix, thoroughly curette the interior of the uterus, and introduce a spiral wire stem, which is to be worn continuously during at least three subsequent periods, the patient being directed to take hot vaginal douches even when menstruating.—DUKE.

In functional dysmenorrhœa and also valuable in chlorosis, anæmia, and their attending amenorrhœa:

℞ Mangani dioxidi gr. cc.
 Ferri carbonatis gr. c.
 Extr. nucis vomicæ gr. xxv.

M. ft. pil. No. c. S. One three times a day after meals.

—UPSHUR.

When the patient shows signs of hysteria:

℞ Pulv. camphor 0.10
 Resin. asafoetidæ 0.05
 Extr. gentianæ q.s. ut ft. pil. No. i.

D. tal. dos. No. xxx. S. Take five or six pills a day.

—CUMSTON.

It is our duty, in the treatment of pelvic pains in women, to impress strongly upon the mind of the patient the necessity of taking her thoughts from pelvic conditions, to teach her ever to practise self-control, encouraging her sympathetically, removing from her anxiety and fear as to the gravity of her state, and insisting upon the importance of counteracting every development of neurosis that may become manifest in her.—WEBSTER.

℞ Codein gr. ss.
 Chloral.,
 Ammon. brom āā gr. viij.
 Aquæ camph 3 i.

M. S. For one dose. Repeat.

In ovarian neuralgia and dysmenorrhœa, when opiates cannot be tolerated:

℞ Extr. belladonnæ,
 Extr. stramonii.....āā gr. $\frac{1}{2}$
 Extr. hyoscyami..... gr. $\frac{1}{2}$
 Quininae sulphatis..... gr. ss.
 M. ft. pil. No. ii.

—STEER.

℞ Fluid extr. viburnum prunifolium,
 Fluid extr. Jamaica dogwood.....āā 2 gm.
 Syrup..... 50 gm.
 Water..... 140 gm.
 S. Dessertspoonful every two hours.

—COCQ.

Or, extr. viburni prunifolii, 3 i. Give three times a day for five or seven days before the period.

A mixture of caffeine, potassium bromide, and tincture of gelsemium is of much value in the treatment of dysmenorrhœa. This should be administered for a few days before menstruation.

—H. TALLEY.

Or—

℞ Tinct. piscidiæ erythrinæ (Jamaica dogwood)..... 3 ij.
 S. Gtt. xx. every two or three hours.

—LIÉGEAIS.

In dysmenorrhœa preceding the flow, and when not associated with pelvic inflammation or disease of the adnexa, inject ten minims of a three-per-cent mixture of Churchill's tincture of iodine and water into the uterus every four or five days during the intermenstrual period.—J. E. LANGSTAFF.

℞ Arseniate of copper..... gr. $\frac{1}{8}$
 Tincture of pulsatilla..... gtt. xv.
 Tincture of nux vomica..... gtt. viij.
 Distilled water..... 3 iij.

M. S. One tablespoonful every hour or half-hour until the uterine pain is relieved.

—W. BLAIR STEWART.

In dysmenorrhœa with nerve storms and without local disease, give the rest treatment or change of scene; in hospital or among the poor give after each meal:

℞ Phosphor..... gr. $\frac{1}{8}$
 Ferri valerianat.,
 Zinci valerianat.,
 Quin. sulph.,
 Extract. aloes.....āā gr. i.

Arsenic, quinine, strychnine, good diet, and plenty of pure water.—E. E. MONTGOMERY.

℞ Tinct. cannabis indicæ..... ℥ x.
Syr. chloralis hydratis (P. B.)..... ℥ xx.
Glycerini..... 3 i.
Aquæ camphoræ..... q.s. ad 3 i.

M. S. One dose to be taken at the commencement of pain. A second dose may be given in three hours, but no more until the next day.

—BEDFORD FENWICK.

In the neuralgic form

℞ Tinct. opii,
Tinct. valerianæ,
Spir. ætheris comp.,
Tinct. castorei (Fr. cod.)..... ʒ 3 ij.

M. S. 3 i. every hour.

—PARVIN.

In anæmic cases :

℞ Apiolis..... 3 i.
Alcoholis..... 3 ij.
Syr. simplicis..... ʒ ss.
Aquæ destil 3 ij.

M. S. 3 i. every two hours.

—JORET AND HOMOLLE.

To restore menstrual flow after sudden stoppage :

℞ Tinct. opii deodoratæ..... 3 ij.
Extr. cimicifugæ..... ʒ ss.
Syr. simplicis 3 x.

M. S. ʒ i. every three or four hours.

—RINGER.

℞ Camphoræ..... ʒ i.
Alcoholis q.s. ut ft. pulv.

Dein adde :

Pulv. acaciæ,
Sacchar. albi ʒ 3 i.
Aquæ cinnamomi ʒ i.

M. fiat mistura. S. One half, the instant the pain is felt; if not relieved in an hour or two, give the remainder.

—DEWEES.

To relieve the spasmodic element :

℞ Extr. belladonnæ gr. i.
In suppository every two hours.

—MURRAY."

To relieve congestion, massage to lumbo-sacral region between the menstrual periods.

Institute measures to correct local conditions in obstructive and congestive forms: dilatation, curettage, removal of fibroids, etc.

MENORRHAGIA.

Menorrhagia exists when periodical loss of blood from the uterus occasions deleterious effects. To establish the diagnosis of the cause of this symptom the uterus and its appendages must be carefully explored, and in the event of a negative result constitutional or organic derangement should be sought. It is distinguished from metrorrhagia by its periodical occurrence.

TREATMENT.—*When accompanied by dysmenorrhœa :*

℞ Extr. hydrast. canad. fld.,
 Extr. viburn. prunifol. fld ℥℥ ʒ ss.
 M. S. Ten drops every two hours in sweetened water.

℞ Extracti hydrastis fluidi ʒ ss.
 Extracti ergotæ fluidi ʒ i.
 Strychninæ sulphatis gr. iiij.
 Tincturæ ferri chloridi ʒ iss.
 Syrupi simplicis q.s. ad ʒ viij.
 M. S. ʒ i. t.i.d. after meals.

—GUY C. M. GODFREY.

Or, tampon the vagina with iodoform gauze or aseptic cheesecloth boiled in a one-per-cent solution of bicarbonate of sodium; or pack the uterus solidly by introducing a thin strip of gauze with the aid of slender intra-uterine dressing-forceps.

When endometritis exists, electricity; negative pole within the uterus; current of from fifteen to forty milliamperes; twice weekly.—MASSEY.

Extr. gossypii fld., ℥l xxx. every four hours.—PARVON.

℞ Extr. ipecacuanhæ fld ʒ ij.
 Extr. ergotæ fld. ʒ iv.
 Extr. digitalis fld. ʒ ij.
 M. S. Half to a teaspoonful until emesis.

—BARTHOLOW.

For persistent menorrhagia and metrorrhagia, with or without obliteration of menstrual periods, the following simple remedy has proved efficient after failure of hydrastis, ergot, etc.: Hip bath (not in bath tub), water at 85°, of six minutes' duration, with friction of entire pelvic region by patient and attendant.—BARUCH.

In oozing flow, oleum erigerontis, ℥ iii.—v. in capsule or emulsion with syr. acaciæ. Or, when this is not obtainable (the drug exists only in name—Piffard) olei cinnamomi, 3 ss. in capsule or emulsion.

In irregular bleeding, extr. hamamelidis fld. destil., 3 i. t.i.d.

If due to polypus, Monsel's solution (liq. ferri subsulphatis), applied locally in fifty-per-cent strength.—HARE."

AMENORRHŒA.

℞ Aloes pulv.,
Ferri sulphat. exsic.,
Terebinth. alb ʒʒ gr. xv.
M. et ft. capsul. No. xvi. S. One capsule an hour after each meal.

Much better effects are obtained from the iron by giving one hour after meals instead of immediately after.—PARVISS.

℞ Quininæ sulph 3 iss.
Ext. nucis vomicæ gr. xij.
Olei sabinæ 3 ss.
Aloes socotrin gr. viij.
Cantharidis gr. xxiv.
M. ft. pil. xlviii. S. One pill three times a day.

Or, *Dewees' mixture*:

℞ Tinct. guaiaci ammoniatis 3 vi.
Tinct. ferri chloridi 3 iss.
Tinct. cantharidis.. ℥ xlvij.
Vini aloes 3 vi.
Alcoholis q.s. ad ʒ iij.
M. S. Teaspoonful in milk after meals.

The proportions of this formula must be modified for the in-

dividual case. The aloes should be increased or lessened, as may be required, until the patient has one or two softish stools each day. There is also much difference in the irritability of the bladder in relation to cantharides.

℞ Iron peptonate,
Manganese lactate,
Scammonyāā gr. xxx.
Strychnine sulphate..... .. gr. ʒ

M. Divide into sixty pills. S. From two to four to be taken every night on going to bed. —LUTAUD.

When hemorrhage follows abortion and is attended with subinvolution:

℞ Fluid extract of ergot (Squibb's) 3 ij.
Fluid extract of viburnum prunifolium..... 3 ij.
Tincture of cinnamonenough to make ʒ ij.

M. S. Teaspoonful in hot water from two to six times a day. —EGBERT.

Or, *in post-partum hemorrhage from atonia uteri*, massage with finger tips at right angle to abdominal wall between navel and symphysis, pressing back against the spine with a trembling motion of fingers.—KUMPF.

To stimulate involution of the uterus in cases of anæmia:

℞ Tinct. gentianæ comp.,
Tinct. cinchonæ comp.,
Tinct. cardamomi comp.....āā ʒ iss.

M. S. Two drachms before meals. —DAVIS.

For nervousness and general malaise, especially at the period of the menopause:

℞ Ammonii bromidi 3 ij.
Sodii bromidi..... 3 iv.
Spir. ammoniæ aromatici 3 vi.
Aquæ camphoræ..... ʒ vi.

M. S. Tablespoonful every four hours. —PARVIN.

Nymphomania:

℞ Potassii bromidi 3 vi.
Aquæ cinnamomi..... ʒ v.

M. S. Three teaspoonfuls before dinner and four at bedtime.

—BROWN-SÉQUARD.

For hemorrhagic metritis :

℞ Fluid extract of ergot ʒ i.
 Fluid extract of hamamelis,
 Tinct. cinnamon.....āā ʒ ss.
 M. S. A teaspoonful every two hours. —CHASE.

As an astringent and antiseptic injection :

℞ Tannic acid ʒ ij.
 Pure alcohol,
 Beechwood creosote.....āā ʒ i.
 Distilled water..... ʒ viij.
 M. A tablespoonful of this solution mixed with a quart of tepid water, and used as an injection three or four times daily.

Or, lysol 3 i. in O ii. of water.

Vaginismus :

℞ Strontii bromidi,
 Potassii bromidi,
 Ammonii bromidi.....āā 3 iʒ.
 Aquæ destill ʒ viij.
 M. S. Tablespoonful twice a day.
 ℞ Zinci valerianatis..... gr. ʒ
 Quininæ valerianatis..... gr. iss.
 Extr. opii,
 Extr. belladonnæ.....āā gr. ʒ
 M. ft. pil. No. i. S. From three to six pills daily.

Locally :

℞ Extr. krameriæ..... gr. iss.
 Morphinæ hydrochloratis. gr. ʒ
 Olei theobromatis..... 3 i.
 Ft. suppos. vaginal.
 ℞ Cocainæ hydrochlor..... gr. iiij.
 Extr. belladonnæ..... gr. iss.
 Strontii bromidi gr. iv.
 Olei theobromatis 3 iʒ.
 M. ft. suppos. vaginal.

—TOUVENAIN.

Vaginal wash :

℞ Powdered alum,
 Powdered boric acid,
 Powdered boraxāā ʒ iv.
 Hydrastine sulphate gr. xl.
 Carbolic acid,
 Oil of cinnamonāā ʒ lxxx.
 Triturate. S. Use one teaspoonful in a pint of hot water for vaginal injection once daily.

—W. B. HOUSE.

Vaginal suppositories :

- R** Acetanilid. gr. lxxv.
 Tannin. gr. viij.
 Extract of hyoscyamus gr. iv.
 Sugar of milk. gr. cl.
M. This is for one suppository, to be used for vaginal inflammation.

Persistent and profuse leucorrhœa (vaginal) in women of lax fibre after failure of the usual astringents:

- R** Tannigen. § i.
Ft. pulv. No. viii. **S.** One powder in eight ounces cold water.

The vagina is first irrigated with a quart of tepid water; the tannigen solution is then poured into the fountain syringe and allowed to flow through the vagina in the recumbent posture, patient remaining in the latter for fifteen minutes.—BARUCH.

Sexual atony in women :

- R** Extract of cannabis indica,
 Extract of nux vomica ãã gr. xxx.
 Aqueous extract of aloes gr. viij.
M. Divide into one hundred pills, of which three are to be taken daily.

Ovaritis :

- R** Sulphate of soda. 3 iv.
 Sulphur. 3 i.
 Sugar. 3 v.
 Essence of peppermint. q.s.
M. **S.** Teaspoonful at bedtime in a glass of water.

—WINTERNITZ.

For "hot flashes" at the menopause :

- R** Sol. nitroglyc., one per cent. ℥ vi.-x.
 Aq. flor. aurant. § iij.
M. **S.** A teaspoonful every two or three hours.

—ANDREW H. SMITH.

Varicella.

Chicken-pox is a disease essentially of childhood, though it may occur in the adult. It has a vesicular eruption, but one which may become pustular or hemorrhagic. A small erythem-

atous spot may precede by a short period the actual development of the vesicle, resembling somewhat the rosy macule of typhoid fever, or there may be a generalized scarlet-like rash. The change from macule to papule and from papule to beginning vesicle is so abruptly made that the eruption may be said to be vesicular from the start. The vesicles are usually separate without tendency to confluence and maintain their original shape and form, which is spherical or globular. The umbilication which takes place in a few of the lesions must be looked upon as the exception, though the larger ones usually have a central dell or dark depression.

DIAGNOSIS.—The eruption comes out in recurrent crops, so that we find a multiplicity of lesions, papules, pustules, and vesicles all existing at the same time.

Varicella is constantly accompanied at the beginning by a bucco-pharyngeal exanthem. If vesicles in the mouth and upon the velum palati are discrete, they usually cause no inflammatory reaction; if they are abundant, an intense stomatitis with salivation may result.

Vesicles with hyperæmic base, often in little groups (two or more side by side), may be seen upon the tongue, lips, hard palate, or cheek surface. The vesicle ruptures, leaving a superficial ulcer or a fleshy-appearing yellowish elevation.

It is the exception not to find lesions in the mouth.

DIFFERENTIATION.—This is the most important consideration connected with the subject, since little treatment is required. Other vesicular skin diseases, such as eczema, pemphigus, and vesicular urticaria, are excluded by the fever and a certain symmetry of the grouping, the discrete character of the lesions, the absence of itching, and other subjective symptoms.

Pemphigus, exudative erythema, and impetigo contagiosa would usually be excluded by the size of their lesions, were it not that we now and then see instances of varicella bullosa with equally large blebs.

As between hemorrhagic varicella and pemphigus with bloody contents of bullæ, the chances favor pemphigus, since this condition is so rare in chicken-pox. The diagnosis can sometimes be confirmed by the occurrence of ordinary varicella in another member of the family. That a distinction should be called for between varicella and scarlatina would seem superfluous, were it not that scarlatiniform rashes are of quite frequent occurrence in the early stages of chicken-pox; and the diagnosis may have to be made by the absence of angina and ganglionic enlargement. Such a scarlatina-like rash may occur in the prodromal stage, within the first day or two of eruption, or in the decline. The typical lesions of varicella found upon careful inspection will indicate the real affection.

Varicella gangrenosa, with lesions attaining the diameter of one or more inches, and proving quickly fatal, is a condition now and then encountered. It is to be distinguished from multiple gangrene of the skin due to hysterical and other causes. There may be hemorrhage from mucous surfaces suggestive of a purpuric process; or diarrhœa, convulsions, pneumonia, albuminuria, etc., pointing to a septicæmic or mixed infection.

<i>Varioloid (modified variola).</i>	<i>Varicella.</i>
Incubation—twelve days.	Fourteen days.
Initial fever—two to three days.	Some hours.
Temperature—highest when eruption is well out, then falls suddenly.	Intermittent (not high).
Prodromal symptoms—besides fever, pain in back, vomiting, headache, convulsions.	None.
Eruption—as in variola; often first on wrists; crusts.	Vesicular almost from the start; crusts form over dried vesicles in about four days.

Treatment.—For the stomatitis, if severe:

R Potassii chloratis. 3 i.
 Aquæ ʒ ij.
 M. S. To touch the affected region.

For conjunctivitis :

℞ Zinci sulphatis gr. vi.
 Aquæ destill..... ℥ iij.
 M. S. To apply.

To cure pruritus :

℞ Acidi borici..... 3 i.
 Vaselini..... ℥ i.
 M. S. Apply.

To prevent gangrenous changes in the vesicles :

℞ Potassii permanganatis 1
 Aquæ..... 1,000
 M. S. Apply.

If much feverishness :

℞ Potassii acetatis..... 3 i.
 Spir. ætheris nitrosi 3 ij.
 Syr. simplicis 3 iv.
 Liq. ammonii acetatis ℥ i.
 Aquæ camphoræ..... q.s. ad ℥ iv.
 M. S. Teaspoonful repeated as necessary.

Variola.

It is only in the very beginning that small-pox presents difficulties of diagnosis, since, when fully developed, the vesicles with turbid contents and umbilicated, whether discrete or confluent, present a picture which, in conjunction with constitutional symptoms, makes the condition clear. The importance of an early diagnosis need not be insisted upon. The prevalence of the disease in epidemic form or even sporadically, if known to the physician, will cause him to be on his guard.

DIAGNOSIS.—Before the invasion there is often a general bad feeling complained of and possibly backache. The invasion is usually abrupt, attended with chill or chilliness, fever, and pain in the small of the back. The latter may be severe and still stop abruptly when the eruption comes out. There are headache, nausea, attempts at vomiting which sometimes succeed, temperature rapidly attaining 104° F. or over, perhaps followed

by abundant perspiration and prostration. The pulse is full and slow. At the end of the third or upon the fourth day these symptoms will subside rather abruptly as one or more papules appear upon the forehead, lips, or other portion of the head or upon the wrists. Preceding this, however, there may have been an erythema, which is to be carefully distinguished from measles or scarlatina.

In many instances, as the eruption is coming out, the patient exhales a peculiar odor which has been described as a "mousy smell."

The earliest actual lesions might be mistaken for flea bites, but by the second day of eruption characteristic papules, often developing, as it were, beneath the skin, give to the finger a sensation like that of shot grains. These lesions quickly extend from the face over the trunk and extremities. The characteristic hard papules change into vesicles within a period of two days more. The apex of the papule first shows a vesicular change, which gradually increases as the contents become turbid or milky and then purulent. In the mean time many, if not all, become puckered in at their central part, but by the fifth or sixth day this umbilicated appearance is lost again as the pustule becomes spheroidal. After this there is, possibly upon the eighth day, an oozing of matter from the edges, and the lesions dry up into scales or crusts, which are finally shed by the end of the third week.

An angina occurring with the early skin lesions is of diagnostic value, even in varioloid.

Slight hemorrhages into the lesions on the palatine vault portend the severe purpuric form.

DIFFERENTIATION is to be made in the first days from beginning typhus fever, cerebro-spinal meningitis, and pneumonia. After the chill an examination of the chest will usually exclude diseases located here. The absence of explosive vomiting, joint pains, opisthotonos, especially when no remission of symptoms

takes place upon the outbreak of the eruption, and great muscular weakness will serve to exclude cerebro-spinal meningitis.

To exclude typhus, it may be necessary to await the eruption, which in the latter is macular at first and later petechial, but the fever does not fall abruptly with the appearance of the eruption, as is the case in small-pox. The typhus patient is in a stupor with injected conjunctivæ, and the skin is dry and hot.

From measles, the early erythema is distinguished by its evanescent character and its location upon the abdomen and inner surfaces of the thighs; by its not fading under finger pressure and not being accompanied by coryza and bronchial involvement.

The discrete initial lesion of variola is distinguished from the eruption of measles by stretching the skin between the fingers; in small-pox a distinct papule is thus brought to light, while in measles the lesion is seen to be wholly macular. The temperature, too, in measles does not fall as the eruption comes out, but, on the contrary, may increase. The characteristic coryza and catarrhal symptoms should be sufficient for the differentiation, and surely, when the lesions do not become vesicular after a day or two, the doubt will be dispelled.

DIFFERENTIATION TABLE.

<i>Variola.</i>	<i>Scarlatina.</i>	<i>Rubeola.</i>
Incubation :		
One to three weeks.	Twenty-four hours to three weeks.	One to two weeks.
Invasion :		
Severe.	Abrupt; often violent.	Milder.
Chill.	.....	Chilliness.
Pain in lower back.	.....	Headache.
Headache.	.....	Less backache.
Vomiting.	Often first symptom.	Comes later if at all.
Fever rapidly high (104°-106°), declines on appearance of eruption.	Very hot skin; temperature increases to tenth day.	Not sudden rise, moderate (103°); declines suddenly with decline of eruption.

DIFFERENTIATION TABLE (*Continued*).

<i>Variola.</i>	<i>Scarlatina.</i>	<i>Rubeola.</i>
Increase in stage of maturation.	No secondary fever.	No secondary fever.
Eyes injected.	Brilliant.	Watery.
Coryza and catarrh after eruption if at all.	Sore throat.	Catarrhal symptoms precede eruption.
Mouth lesions often early.	Tongue white with red dots toward tip, subsequently raspberry or strawberry red.	Koplik's pearly points on buccal membrane before the skin eruption.
Course:		
Eruption on third day; spread rapid.	On second day spreads from neck downward rapidly.	On the fourth day more rapidly than in variola.
Lesions firm "shotty" papules, changing to vesicles, then to pustules.	Tiny, dot-like or punctate, uniform or in large plaques, with here and there deep-colored raised spots (some small vesicles).	Large, bright red, smooth, soft, crescentic macules.
Suppuration and rupture occur on the eighth day, or lesions dry up; crusting.	Desquamation free (large patches) after eight days.	Partial or scanty desquamation after five days (fine or branny).
Cerebral symptoms.	Frequently seen.	None.
Pneumonia (not frequent)	Rare.	Frequent.

The milder grade of variola, seen, for the most part, in those who have been vaccinated, and called varioloid, or modified small-pox, is the form which is most commonly confounded with varicella. If it is remembered that chicken-pox is usually vesicular from the very beginning, that it has no prodromata, and that the vesicles are more apt to appear upon the trunk and only later upon the face and scalp, and that it is, in general, much more scanty than in even moderate cases of varioloid, this difficulty of diagnosis will be obviated. Varicella has a vesicular tendency from the very beginning, even if actual vesicles are not then present. Instances causing confusion are those in which almost all the lesions of varicella become umbilicated and some of them pustular. It is only the first or true umbilication which should be taken into account in variola.

While the absence of severe constitutional symptoms will usually point to the true nature of the disease, great aid will be derived from a history that varicella prevails in the immediate neighborhood or from a history of exposure, while epidemic prevalence of mild variola will lend weight in the opposite direction. In the adult the chances are all in favor of the affection being of a variolous nature, and conversely in children of its being varicellar. Instances of *acne indurata*, *papular urticaria*, *impetigo contagiosa*, and *pustular syphilis* have all more than once been sent to the small-pox hospital by mistake, and it is little wonder, considering the slight opportunity many students have of observing the disease. In *acne*, there are usually accompanying comedones and deep-seated pustules, while the papule of *syphilis* usually has a brownish scale upon its central portion, and the lymph nodes are enlarged. In *impetigo contagiosa* there are no prodromata; the vesical wall is thin and readily brushed off, allowing a crust to form early.

A few days' observation suffices in the most puzzling cases to show that characteristic changes in the lesions have not occurred. During the suppurative stage, or between the fifth and eighth day in small-pox, there is frequently a reappearance of the fever. Purpura has at times been diagnosticated because of the early occurrence of petechiæ or purpura-like lesions, when the condition has been in reality one of hemorrhagic variola. Severe epidemics of this malignant form of the disease have occurred from lack of the necessary precautions in the first instance, both before and after death, which would have been taken had the true nature of the disease been known. The petechiæ which precede small-pox are at times located in the groins and axillæ more specially; still a generalized purpura may exist. When there is any question of doubt a positive diagnosis should be postponed and ordinary precautions carried out. Rare instances of pyosepticæmic puerperal exanthem have simulated variola.

The distinguishing characteristics between mild discrete small-pox and chicken-pox :

	Small-pox.	Chicken-pox.
Age	Any age.....	Childhood.
Incubation	Two weeks.....	Thirteen to seventeen days.
Invasion.....	Marked headache, backache, fever, general malaise, lasting three to four days.	Is none, or at most only slight; worse in the covered portions, thorax.
Surfaces attacked ..	Worse on the exposed parts, extremities; invariably on the palms.	Rarely or never seen on the palms or soles.
Character of the eruption.	Progressive; papules, vesicles, pustules, crusts.	Papules and crusts; lesions very superficial; easy to rupture.
Histology	Lesion includes the lower layers of the derma; hard to rupture; multilocular.	Unilocular.
Temperature.....	Remains high (103-105°) till eruption appears, then drops and does not rise again for a week, and not then in the milder discrete forms.	Rises with the severity of the attack.
Contour of the eruption.	Quite uniform in size; has a reddened area at base; frequently umbilicated.	Not uniform; also inflamed area about the vesicle, but less marked.
Sensation	Painful to the touch; may itch.....	Not painful to touch.
Duration, including period of invasion and desquamation.	Two to four weeks.....	One week to fourteen days.
Vaccination	Protects	Does not protect.
Pitting.....	When confluent on face will occasionally mark in the discrete form.	Seldom unless infected.
Complications.....	Generally none.....	None.
Mortality.....	High in severe confluent and hemorrhagic types.	Nil.
Resolution	By crusts.....	By lysis.

—FREDERICK LEAVITT.

TREATMENT.—*To abort the papules*, diminish pruritus, and prevent pitting, apply to the face so as to keep moist during a whole day the following:

℞ Hydrargyri chloridi corrosivi,
Extr. opii.....āā 1 gm.
Alcoholis 5 "
Glycerini..... 60 "
M. S. For external use.

—LEBESGUE.

℞ Ichthyol 15
Olei amygdalæ dulc..... 65
Lanolini 20
M. S. Apply.

℞ Ichthyol 15
Ungt. petrolati..... 100

To decrease surface irritation, anoint the whole body with one-per-cent carbolized or one-half-per-cent naphtholized oil.

℞ Atropinæ sulphat. gr. i.
Aquæ ʒ ss.
M. S. Three to five minims every three or four hours.

—HITCHMAN.

℞ Acidi salicylici..... gr. xx.
Sodii bicarbonatis,
Ammonii carbonatisãã gr. iv.

M. et ft. chart. No. i. S. Take in water every two to four hours.

—PRIDEAUX.

To prevent pitting :

℞ Collodii flexilis ʒ i.

S. Apply every day or two with a camel's hair brush to the eruption.

—RINGER.

℞ Iodoform..... ʒ i.

Collodion..... ʒ xv.

M. S. Paint on the pustules of the face, neck, and hands frequently.

—FAURE.

Or, paint with :

℞ Argenti nitratis..... gr. xx.

Aquæ dest..... ʒ i.

—BARTHOLOW.

Or, exclude air, keep moist, and lessen local irritation.—
STOKES.

Red light, by the use of red curtains, red window panes, etc.,
was several years ago advocated by Finsen.

To abort the pustules :

℞ Sodii salicylatis..... ʒ ij.

Glycerini..... ʒ i.

Aquæ menth. pip.....q. s. ad ʒ iiij.

M. S. One or two tablespoonfuls three or four times a day.

—REIMER.

℞ Liq. ammonii acetatis ʒ iiiss.

Spir. æth. nitrosi ʒ ss.

M. S. Tablespoonful in a wineglassful of water every two or three hours.

—HARTSHORNE.

Salol abolishes all sense of irritation and desire to scratch.
Maturation is usually prevented. Dose, fifteen grains three
times a day.—CHARLES BEGG.

1. The first part of the document is a list of names and addresses, which are arranged in two columns. The names are written in a cursive script, and the addresses are written in a more formal, printed style. The list appears to be a directory or a roster of some kind.

APPENDIX.

SINCE both methods have been employed in the foregoing pages, the following tables of equivalents and methods of converting apothecaries' into decimal weight and *vice versa*, will be found convenient.

		Water and Fluids of Similar Specific Gravity.	For Syrups, Glycerin, Chloroform.
Minim	1	= c.c. 0.06	0.08
Minims	16	= " 1.00	1.32
"	60 (3 i.)	= " 8.75	5.00
"	120 (3 ii.)	= " 7.50	10.00
"	480 (3 i.)	= " 30.00	40.00

500 grams	= 7716.2 grains (about 1 lb. 1½ oz.).
250 "	= 8858.1 " (" 8½ oz.).
100 "	= 1543.2 " (" 3½ ").
25 "	= 385.8 " (" ⅞ ").
10 "	= 154.3 " (" ⅓ ").
5 "	= 77.2 " (" ⅓ ").
1 gram	= 15.4 "
½ " (or 500 milligrams)	= 7.7 "

1 milligram (mgm.)	=	⅞ grain.
1 centigram (cgm.)	=	⅓ "
1 decigram (dgm.)	=	1½ grains.
1 gram (gm.)	=	15 "
1 decagram	=	150 "
1 hectogram	=	1,465 "
1 kilogram	=	14,720 "
1 myriagram	=	145,824 "

APPROXIMATE EQUIVALENTS.

Grains.	Grams.	Grains.	Grams.	Drachms.	Grams.
1/150	0.0004	1/5	0.018	3 ss.	2.00
1/120	0.0005	1/4	0.016	3 i.	4.00
1/100	0.0006	1/3	0.03	3 ij.	8.00
1/90	0.0007	2/5	0.08	3 iij.	12.00
1/80	0.0008	1/2	0.082	3 iv.	16.00
1/64	0.001 (mgm.)	3/5	0.04		
1/60	0.0011	2/3	0.048		
1/50	0.0013	3/4	0.05		
1/48	0.0014	7/8	0.057		
1/40	0.0016	1	0.065		
1/36	0.0018	2	0.12 (dgm.)		
1/32	0.003	3	0.20		
1/30	0.0023	4	0.24		
1/25	0.0026	5	0.30		
1/20	0.003	6	0.40		
1/16	0.004	7	0.45	Ounces.	
1/12	0.005	8	0.50		
1/10	0.006	9	0.60	ss.	15.00
1/9	0.007	10	0.65	i.	30.00
1/8	0.008	15	1.00 (gm.)	iv.	125.00
1/7	0.009	20	1.30	vij.	250.00
1/6	0.01 (cgm.)	30	2.00	xvi.	500.00

TO CONVERT APOTHECARIES' WEIGHT AND MEASURE APPROXIMATELY INTO DECIMAL WEIGHT AND MEASURE.

1. *Drachms* and *Troy ounces* are approximately converted into *grams* by multiplying the number of drachms by 4 and rounding off the product to figures ending in 0 or 5.

The same rule may be applied to convert *fluidrachms* and *fluidounces* into *cubic centimetres*.

2. *Grains* are converted approximately into *centigrams* by multiplying them with 6 and rounding off the product to figures ending in 0 or 5.

The same rule may be applied to convert *minims* into *cubic centimetres*, but the product must be divided by 100 (by moving the decimal point two places to the left).

TEMPERATURE AND PULSE RATIO.

A temperature of—

98° F.	corresponds to a pulse rate of	60
99° F.	" " " "	70
100° F.	" " " "	80
101° F.	" " " "	90
102° F.	" " " "	100
103° F.	" " " "	110
104° F.	" " " "	120
105° F.	" " " "	130
106° F.	" " " "	140

CLASSIFICATION OF BATHS ACCORDING TO TEMPERATURE.

While a classification of baths according to temperature must necessarily be more or less arbitrary, the following is convenient and practical :

Very cold.....	32° to 55° F.
Cold	55° to 65°
Cool	65° to 80°
Tepid	80° to 92°
Warm (or neutral, 92° to 95°).....	92° to 98°
Hot.....	98° to 104°
Very hot.....	104° and above.

A SIMPLE METHOD OF WRITING PRESCRIPTIONS FOR CHILDREN.

Dr. Max Huhner⁸⁶ bases a simple method upon Cowling's rule (age at next birthday divided by twenty-four). Make each prescription represent twenty-four doses, *i.e.*, $\bar{3}$ iij. of liquids or twenty-four powders or pills. Place opposite each ingredient the adult dose multiplied by the number of years at the next birthday. For example—

At one year of age :

℞ Syr. ipecac..... ℥ x.
 Ammon. mur..... gr. v.
 Ex. scillæ fl..... ℥ ij.
 Aq.....q.s. ad $\bar{3}$ iij.
 M. S. $\bar{3}$ i. every three hours.

At six years of age :

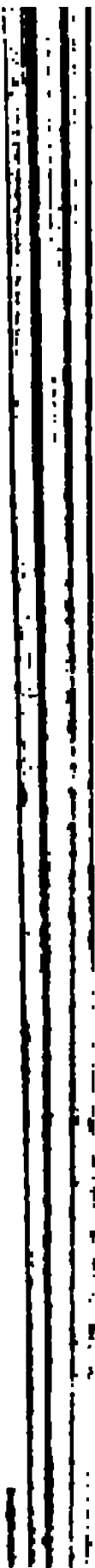
℞ Syr. ipecac..... ℥ lx.
 Ammon. mur..... gr. xxx.
 Ex. scillæ fl..... ℥ xij.
 Aq.....q.s. ad $\bar{3}$ iij.
 M. S. $\bar{3}$ i. every three hours.

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